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The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

MAILED

JUL 17 2000

Ex parte JOHN KOLLAR

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 1998-3109
Application 08/567,564¹

ON BRIEF

Before WARREN, OWENS and ROBINSON, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 17. Claim 1 is illustrative of the claims on appeal:²

1. A process for the preparation of a dialkyl peroxide comprising reacting one or more members selected from the group consisting of an alkylating alcohol of the formula ROH, and an olefin of the formula $(R^2)(R^{2a})C=C(R^3)(R^{3a})$, wherein R is C₁-C₁₀ alkyl, and R², R^{2a}, R³, and R^{3a} are independently selected from hydrogen and C₁-C₁₀ alkyl; with a hydroperoxide of the formula R¹OOH wherein R¹ is C₁-C₁₀ alkyl; in the presence of an effective amount of a substantially solid, insoluble, heterogenous acidic catalyst; followed by separation of the reaction mixture from said catalyst.

¹ Application for patent filed December 5, 1995.

² We have copied claim 1 as it stands of record on page 17 of the specification including the word "heterogenous" which should be "heterogeneous."

The appealed claims as represented by claim 1³ are drawn to a process for the preparation of a dialkyl peroxide comprising at least reacting one or more specified alkylating alcohols and/or olefins with a specified monoalkyl hydroperoxide in the presence of a substantially solid, insoluble, heterogeneous acidic catalyst and separating the reaction mixture from the catalyst. The processes are depicted by the chemical equations on specification pages 5 to 6. According to appellant, the claimed process is a low cost method of producing dialkyl peroxides, such as di-*tert*-butyl peroxide, which are known compounds that are further known to have varied utility, such as in the preparation of ethylene glycol and as cetane improvers for diesel fuel compositions (specification, e.g., pages 1-3 and 11).

The examiner has rejected appealed claims 1 through 17 under 35 U.S.C. § 102(b) “based upon a sale (or an offer to sale [sic, sell]) of the invention” by Redox Technologies, Inc. (hereinafter Redox) to Celanese Corporation (Celanese), in one ground of rejection, and to ARCO Chemical Company (ARCO), in the other ground of rejection (answer, pages 4-5).⁴

Because we agree with the examiner's conclusion that the claimed invention was on-sale within the meaning of § 102(b) based on the evidence of record involving Celanese, we affirm the examiner's decision refusing to allow the appealed claims on the basis of this ground of rejection. However, since our rationale materially differs from that of the examiner as set

³ Appellant states in his principal brief (page 4) that appealed “claims 1-17 all stand together against [sic] Examiner’s rejection under 35 U.S.C. § 102(b).” The applicable rule, 37 CFR § 1.192(c)(7) (1997), provides in pertinent part:

(7) *Grouping of claims.* For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable.

Thus, because appellant has stated that appealed claims 1 through 17 stand together as a group with respect to the grounds of rejection under § 102(b) and has not explained why any of the claims of the group are believed to be separately patentable, we decide this appeal based on appealed claim 1.

⁴ The examiner states in the answer (page 2) that these two grounds of rejection are the “only issue” on appeal. In the interest of judicial economy, we will consider only the on-sale provisions of § 102(b) with respect to the appealed claims.

forth below, as to which appellant has not had an opportunity to respond, we designate our affirmance as involving a new ground of rejection pursuant to our authority under 37 CFR § 196(b) (1997).

We reverse the ground of rejection based on the evidence of record involving ARCO.

In reaching our decision, we have carefully considered the documentary and testimonial evidence and appellant's admissions as well as the cited authority and arguments advanced by appellant and the examiner in the following documents of record in the file of this application:

Paper No. 3, filed April 24, 1996. This submission consists of the following two (2) documents:

Request For Interference With U.S. Patent No. 5,371,298 Under the Provisions of 37 C.F.R. § 1.607(a)-(d) (hereinafter § 1.607 Request), which submission has attached thereto a copy of said patent as *Exhibit A*; and,

Prima Facie Showing by Applicant Under the Provisions of 37 C.F.R. § 1.608(b) (hereinafter § 1.608(b) Showing), which has the following exhibit as an attachment;⁵

Exhibit B: Declaration of John Kollar (hereinafter Kollar Declaration),^{6,7} executed April 20, 1996, which has the following seven exhibits as attachments:

Exhibit 1: Declaration of John Christopher Kollar D.O. (hereinafter John Christopher Kollar Declaration), executed April 20, 1996; which has the following exhibit as an attachment:

Exhibit 1-a: laboratory notebook page signed by "Chris Kollar."

Exhibit 2: laboratory notebook page signed by "John Kollar."

Exhibit 3: pages 1, 23 and 24 of the document "DEFINITIVE AGREEMENT" of the "1st. day of July, 1980" (hereinafter Celanese Definitive Agreement),⁸ executed on page 24 by Mr. "Bartley, Jr.", for

⁵ The § 1.608(b) Showing was entered in the file with the same paper number as the § 1.607 Request. We observe that even though appellant indicates that these documents are "separate" papers (§ 1.608(b) Showing, first page), the page numbers of the two documents are consecutive, that is, the *second* page of the § 1.608(b) Showing is marked as page 10 while the last page of the § 1.607 Request is marked as page 8, and the sole attachment in the § 1.607 Request is labeled *Exhibit A* and the *first* attachment in the § 1.608(b) Showing is labeled *Exhibit B*.

⁶ We observe that the Kollar Declaration was assigned Paper No. 2 in the file.

⁷ The consecutive page numbering (*see above* note 5) was continued for the Kollar Declaration, the *first* page of which is numbered as page 23, and for the John Christopher Kollar Declaration, the *first* page of which is numbered as page 27.

⁸ The remaining pages of this document, that is, pages 2 through 23, were submitted with appellant's Response of September 25, 1997 (Paper No. 8). The Response erroneously indicates that pages 2-22 were submitted (page 6).

Celanese Corporation on "1-7 1981" and by "John Kollar" for Redox Technologies, Inc., on "12-22-1980," which page carries the further notation 11/20/80-FK"; and a document submitted to Celanese entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" and marked "REDOX TECHNOLOGIES INC. CONFIDENTIAL".⁹

Exhibit 4: document entitled "Redox II Design and Economics Update" and marked "CELANESE CHEMICAL COMPANY, INC. TECHNICAL CENTER Corpus Christi, Texas," and having the notations "DDD-38-81" and "WNU-17-81" on the first three pages thereof, with the date "September 4, 1981."

Exhibit 5: document marked "REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting."

Exhibit 6: letter from William P. Weeks to John Kollar, dated April 23, 1987, conveying "ARCO's standard confidentially [sic] agreement" (hereinafter ARCO Confidentiality Agreement) which is titled "Re: Methanol to Ethylene Glycol" and dated April 23, 1987, which copy of the "agreement" was executed by "John Kollar" on "4-29-87."

Exhibit 7: document section submitted to ARCO entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene."¹⁰

Exhibit C: letter from John C. Martin, Jr. to John Kollar, dated November 21, 1995 (hereinafter Martin letter), conveying a "copy of Technical Suggestion 81-73 signed October 16, 1981 titled 'Improved Process for the Production of Ditertiary Butyl Peroxide.'"

Paper No. 8, filed September 25, 1997: Response by appellant to the Office action of April 22, 1997 (Paper No. 6), which Response has the following two attachments:

Copy of the Protest Under 37 CFR § 1.291(a) by ARCO Chemical Technology, L.P. (hereinafter ARCO's Protest).¹¹

Pages 2-23 of the document Celanese Definitive Agreement submitted as Kollar Declaration *Exhibit 3* in the § 1.608(b) Showing.¹²

⁹ This document, submitted to Celanese, is different from the document section of the same title submitted to ARCO and included in the § 1.608(b) Showing as Kollar Declaration *Exhibit 7*. See below note 10.

¹⁰ See above note 9. We find that Kollar Declaration *Exhibit 7* is not referred to in that declaration (see ¶ 10) but is referred to in the § 1.608(b) Showing (page 16) as being attached to the Kollar Declaration.

¹¹ In the Response (e.g., pages 2-4), appellant acknowledged service of and responded to ARCO's Protest, which was separately filed in this application by ARCO on January 30, 1997 (Paper No. 5).

¹² See above note 8.

Paper No. 11, filed March 17, 1998; Response by appellant to the Office action of December 19, 1997 (Paper No. 9), which Response contains the following two attachments:

Exhibit 1: substitute ¶ 6 for the Kollar Declaration.

Exhibit 2: letter from Ward J. Klingebiel to John Kollar, dated May 12, 1988 (hereinafter Klingebiel letter), conveying "two copies of proposed REDOX Secrecy Agreement as retyped by ARCO," entitled "CONFIDENTIAL DISCLOSURE AGREEMENT," is dated "12th DAY OF May 1988" (hereinafter ARCO/REDOX Secrecy Agreement) and the copy of the "agreement" was executed by "John Kollar."

Paper No. 18, filed May 8, 1998: appellant's principal brief, filed in response to the final Office action of April 30, 1998 (Paper No. 16).

Paper No. 21, mailed August 17, 1998: examiner's answer.

Paper No. 22, filed August 27, 1998: appellant's reply brief, filed in response to the examiner's answer of August 17, 1998 (Paper No. 21).

Opinion

The test for the application of the on-sale bar to a claimed invention under 35 U.S.C. § 102(b) stated by the Supreme Court in *Pfaff v. Wells Electronics, Inc.*, consists of two conditions:

[T]he on-sale bar applies when two conditions are satisfied before the critical date. First, the product must be the subject of a commercial offer for sale. . . . [The] rule . . . measures the application of the on-sale bar of § 102(b) against the date when an invention that is ready for patenting is first marketed commercially. In this case the acceptance of the purchase order prior to [the critical date] makes it clear that such an offer had been made, and there is no question that the sale was commercial rather than experimental in character.

Second, the invention must be ready for patenting. That condition may be satisfied in at least two ways: by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention. In this case the second condition of the on-sale bar is satisfied because the drawings Pfaff sent to the manufacture before the critical date fully disclosed the invention. [525 U.S. 55, 67-68, 48 USPQ2d 1641, 1646-47 (1998).]

Whether an invention was on-sale within the meaning of § 102(b) more than one year prior to the date that the present application was filed is a question of law based on underlying

facts.¹³ See, e.g., *Tec Air, Inc. v. Denso Manufacturing Michigan, Inc.*, 192 F.3d 1353, 1358, 52 USPQ2d 1294, 1296 (Fed. Cir. 1999). Because this application was filed on December 5, 1995, the *critical date* for the purpose of applying this statutory provision to the appealed claims in view of the record of this patent application, that is, more than one year prior to the date that the present application was filed, is *December 5, 1994*. See, e.g., *Pfaff*, 525 U.S. at 57-58, 48 USPQ2d at 1642. The standard of proof that must be met by the examiner in making a rejection of the appealed claims under the on-sale bar of § 102(b) is a preponderance of the evidence. See *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

The evidence relevant to whether a claimed invention may have been on-sale before the critical date is ordinarily placed in the record by an applicant, either on his or her own volition or pursuant to a request for information by the examiner. See generally, *Manual of Patent Examining Procedure (MPEP)* § 706.02(c), “Rejection Under 35 U.S.C. 102(a) or (b); Knowledge by Others or Public Use or Sale” (7th ed., Rev. 1, Feb. 2000; 700-12). Where the examiner demonstrates that the preponderance of the evidence of record establishes, *prima facie*, that the claimed invention was on-sale within the meaning of § 102(b) before the critical date under the test in *Pfaff*, 525 U.S. at 67-68, 48 USPQ2d at 1646-47, the burden shifts to appellant to demonstrate that the claimed invention was not on-sale within the meaning of § 102(b) prior to the critical date, or to come forward with evidence that the purpose of the on-sale activity with regard to the claimed invention was experimental and not commercial. See, e.g., *In re Hamilton*, 882 F.2d 1576, 1581, 11 USPQ2d 1890, 1893 (Fed. Cir. 1989); *Caveney*, 761 F.2d at 674-75, 226 USPQ at 3. Thus, the development of the record in a patent application with respect to whether the claimed invention was on-sale within the meaning of § 102(b) before the critical date is to a large extent the responsibility of appellant.

The documentary and testimonial evidence and admissions made by appellant which appear in the documents submitted during the prosecution of this patent application before the

¹³ Our reviewing court applies the test announced in *Pfaff, supra*, “without balancing various policies according to the totality of the circumstances.” *Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp.*, 182 F.3d 888, 890, 51 USPQ2d 1470, 1472 (Fed. Cir. 1999), quoting *Weatherchem Corp. v. J.L. Clark, Inc.*, 163 F.3d 1326, 1333, 49 USPQ2d 1001, 1006 (Fed. Cir. 1998).

examiner (*see above* pp. 3-5) along with presumptions of fact that we have made based thereon, as set forth below, constitutes the factual basis for consideration of the grounds of rejection based on the on-sale bar under § 102(b). Accordingly, the record of this appeal has been developed solely by appellant and it is obviously incomplete. We observe, in this respect, that appellant has admitted that the record in this appeal does not contain complete documents and has further directed attention to other documents in the file of United States Patent No. 5,321,157 as well as alluded to documents in his possession as being pertinent to the issue of whether the invention claimed in *this* application was on-sale.¹⁴ Indeed, we have made note below of the absence from the record of certain documents and other matters which pertain to the Celanese Definitive Agreement, the ARCO Confidentiality Agreement and the ARCO/REDOX Secrecy Agreement. We will consider documentary or testimonial evidence with respect to the issues involved with the grounds of rejection *only* if it has been introduced into the record of *this* application by appellant along with an explanation of the relevance thereof to the issues in *this* application.

In the interest of judicial economy and to further the prosecution of this application, we will consider the grounds of rejection under § 102(b) advanced by the examiner on appeal on the evidence of record as it stands before us. However, we have included below a request for certain information which we deem appropriate for consideration in the event that appellant continues the prosecution of this application in response to our decision (*see* pp. 48-51).

¹⁴ See, e.g., appellant's principal brief (e.g., last paragraph on page 7), reply brief (e.g., pages 6-7) and Response of March 17, 1998 (e.g., paragraph bridging pages 5-6, paragraph bridging pages 6-7, second and third full paragraphs on page 9, and first full paragraph on page 11). For example, appellant admits in his Response of March 17, 1998 (page 9) that "only a few pages of the DtBP relevant block 2 has been included . . . as Exhibits 3, 4 and 7." We further find that the Celanese Definitive Agreement and the ARCO/REDOX Secrecy Agreement were prepared with the input of Celanese and of ARCO, respectively, and of Redox, while the ARCO Confidentiality Agreement is "ARCO's standard confidentiality agreement." See, e.g., the Martin letter, the Klingebiel letter and appellant's principal brief (e.g., last sentence on page 5) and Response of March 17, 1998 (e.g., pages 4 -5). On this record, we find that the relevant documents have either been tailored by mutual agreement of the parties with respect to the particular circumstances encountered or a "standard" agreement of ARCO, and thus *no* document provided by appellant is merely a generic Redox document which was uniformly employed regardless of technology or prospective customer. We note that U.S. Patent No. 5,321,157 is directed to a process for the

I.

In order to demonstrate that the claimed invention was, *prima facie*, on-sale within the meaning of § 102 (b), the examiner must first establish that the claimed process was “the subject of a commercial offer for sale” before the critical date. *Pfaff*, 525 U.S. at 67, 48 USPQ2d 1646. This burden can be carried by showing that there was a definite sale or offer to sell a process which fully anticipated the claimed process or would have rendered the claimed process obvious to one of ordinary skill in this art by its addition to the prior art. See *Tec Air*, 192 F.3d at 1358, 52 USPQ2d at 1296-97. Thus, “the first determination in the § 102 (b) analysis must be whether the subject of the barring activity met each of the limitations of the claims, and thus was an embodiment of the claimed invention.” *Scaltech Inc. v. Retec/Tetra, L.L.C.*, 178 F.3d 1378, 1383, 51 USPQ2d 1055, 1058-59 (Fed. Cir. 1999).

Accordingly, as an initial matter in our review of the grounds of rejection advanced by the examiner, we must interpret the scope of the claimed process encompassed by representative claim 1 (*see above* pp. 1-2 and note 3). We find that claim 1 encompasses processes for the preparation of a dialkyl peroxide comprising at least reacting one or more specified alkylating alcohols and/or olefins, that is, separately or in admixture, with a specified monoalkyl hydroperoxide, wherein the alkyl groups on the reactants and the product contain up to ten carbon atoms, in the presence of *any* substantially solid, insoluble, heterogeneous acidic catalyst, and separating the reaction mixture from the catalyst. The specification Examples (pages 11-16) illustrate processes falling within claim 1 wherein di-*tert*-butyl peroxide (DTBP¹⁵) is prepared by the reaction of *tert*-butyl alcohol (TBA¹⁶) and/or *iso*-butylene (isobutylene¹⁷) with *tert*-butyl

preparation of dibasic acids and does not appear to directly or indirectly involve known dialkyl peroxides or the presently claimed process of making the same.

¹⁵ We hereinafter use DTBP to denote di-*tert*-butyl peroxide which is also denoted in the record as di-tertiary-butyl peroxide, DTBP, DTBP and di-t-butyl peroxide.

¹⁶ We hereinafter use TBA to denote *tert*-butyl alcohol which is also denoted in the record as *t*-BA, TBA, *t*BA, tertiary butyl alcohol and t-butyl alcohol,

¹⁷ We hereinafter use isobutylene to denote *iso*-butylene which is also denoted in the record as isobutylene, iso-C₄, iC₄, I-Butene, and i-butene.

hydroperoxide (TBHP¹⁸). The substantially solid, insoluble, heterogeneous acidic catalysts disclosed in the specification (pages 8-10) include cross-linked acidic ion exchange resin catalysts, such as cross-linked polystyrene-divinyl benzene acidic resin catalysts which are “macroreticular and possess physical porosity” (page 9). The processes of the specification Examples employ “a dry Amberlyst A-15 resin” which is described as “a strong acid ion exchange resin of the sulfonic acid type with the type macroreticular structure that is essential for carrying out the reactions which comprise the processes of the present invention” (pages 11-12).

We further find that that the preamble of claim 1 recites the transitional term “comprising.” As a matter of claim construction, the process of claim 1 comprises *at least* the steps of reacting an “alkylating alcohol” and/or an “olefin” with a “hydroperoxide” using a “substantially solid, insoluble, heterogeneous acidic catalyst” and “separating the reaction mixture from the catalyst.” *Compare Exxon Chemical Patents Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555, 35 USPQ2d 1801, 1802 (Fed. Cir. 1995) (“The claimed composition is defined as comprising - meaning containing at least - five specific ingredients.”). Thus, the transitional term “comprising” would open claim 1 to encompass (1) processes that involve the use of other materials, such as other reagents and diluents, in preparing the dialkyl peroxide; (2) processes which further include steps for the preparation of one or more of the reactants, such as the preparation of the TBHP by the reaction of isobutane and oxygen; and (3) processes which further include steps involving the reaction of the dialkyl peroxide, such as in the manufacture of ethylene glycol. *See In re Baxter*, 656 F.2d 679, 686-87, 210 USPQ 795, 802-03 (CCPA 1981) (“As long as one of the monomers in the reaction is propylene, any other monomer may be present, because the term ‘comprises’ permits the *inclusion* of other steps, elements, or materials.”).

We emphasize with respect to the scope of claim 1, that a process which comprises at least the step of reacting the alkylating alcohol and/or olefin with the monoalkyl hydroperoxide in the presence of the specified catalyst and the step of separating the reaction mixture from the catalyst would anticipate or render obvious the claimed process encompassed by claim 1.

¹⁸ We hereinafter use TBHP to denote *tert*-butyl hydroperoxide which is also denoted in the record as *t*-BHP, *t*BHP, tBHP and *t*-butyl hydroperoxide.

Accordingly, the focus of our inquiry into appellant's activities is based on the basic two step process. This is so even though appellant points out in his Response of March 17, 1998, that the "[DTBP] relevant portion" of the process for preparing ethylene glycol is relatively small (first full sentence on page 12). See *RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1061-62, 12 USPQ2d 1449, 1453-54 (Fed. Cir. 1989) ("RCA, nevertheless, argues that an invention which has been reduced to practice cannot be placed on sale in the context of a contract to develop a specifically different product which is in the experimental stage. Reduced to simplest terms, RCA's position is that an offer to sell A, a device reduced to practice, in combination with B, the combination not having been reduced to practice, must be deemed an experimental use of A. We think not. . . . RCA's broad brush approach that the experimental use justification must be applied to the subject matter of the offer as a whole could easily lead to circumvention of the purposes of the on-sale bar.").

II.

The documentary and testimonial evidence of record establishes that, prior to the critical date, appellant, through his assignee Redox,¹⁹ entered into certain agreements with Celanese and ARCO with respect to a process for preparing ethylene glycol (hereinafter EG) as evinced by the Celanese Definitive Agreement, the ARCO Confidentiality Agreement and the ARCO/REDOX Secrecy Agreement, all executed well before the critical date. We observe here that appellant variously refers to processes for preparing EG as defined, for example, in ¶ 1.1 of the Celanese Definitive Agreement, as the "Redox EG process" (e.g., ¶ 7 of the Kollar Declaration) or simply the "Technology" (e.g., item no. 4 on page 8 of appellant's principal brief). We hereinafter refer to the Redox EG processes as the "Technology."

We find from the evidence that processes for preparing EG from methanol and an organic peroxide constitute the "Technology" was the focus of the Celanese Definitive Agreement (¶ 1.1, the "Field") and of the ARCO Confidentiality Agreement (e.g., title and introductory paragraphs

¹⁹ Appellant states in his principal brief that "[t]he real party in interest in this matter is John Kollar through Redox Technologies Inc." (page 2). We find it apparent from the entire record that appellant John Kollar is indeed synonymous with Redox, which entity according to ARCO's Protest (page 3) is appellant's wholly owned corporation, and to which entity the present application has been assigned by appellant.

on page 1) and the ARCO/REDOX Secrecy Agreement. The “Technology” developed by Redox is summarized in the “Field” defined in ¶ 1.1 of the Celanese Definitive Agreement as follows (emphasis supplied):

- 1.1 The term “Field” shall mean processes for the manufacture of ethylene glycol (EG) involving a series of steps as follows:
- A. The *manufacture of tertiary butyl hydroperoxide (TBHP)* by the reaction of isobutane and oxygen,
 - B. The *manufacture of di-tertiary butyl peroxide (DTBP) by the reaction of TBHP and isobutylene,*
 - C. The *manufacture of EG* as well as the simultaneous manufacture of coproducts including glycerine, t-butanol, acetone and others by free radical induced dehydromerization of methanol *using peroxides, such as DTBP*, with or without the simultaneous free radical induced addition of methanol to formaldehyde,
 - D. Optionally, the manufacture of isobutylene from t-butanol,
 - E. Such purification steps as may be required to obtain a final product suited for its intended use including the purification of EG to obtain fiber-grade EG, and

The term “Field” shall also include *related processes using organic peroxides for the manufacture of EG in which the overall sequence of steps remains the same, but one or more intermediate steps has been omitted or replaced by an equivalent or comparable step or a new step has been added.*

The basic process to prepare “di-tertiary butyl peroxide (DTBP) by the reaction of TBHP and isobutylene” as set forth in step “B” of the “Field” of the Celanese Definitive Agreement was known *per se* as admitted by appellant (specification, page 1, lines 23-26). The known reactants are encompassed by the definitions of the “alkylating alcohol,” “olefin” and “hydroperoxide” reactants specified in claim 1. The point of novelty of the process of claim 1 is the use of a substantially solid, insoluble, heterogeneous acidic catalyst. There is no disclosure of catalysts in the Celanese Definitive Agreement *per se* or in the ARCO/REDOX Secrecy Agreement *per se*, to the extent it is of record,²⁰ and the ARCO Confidentiality Agreement only mentions “catalysts” as a feature of the “Technology” developed by Redox (page 1, first paragraph). Thus, we must review the other documents of record to determine whether processes falling within

²⁰ See below p. 19.

claim 1 were embodied in the "Technology" and other processes that comprised the subject of these agreements.

Celanese

With respect to the disclosure of the "Technology" to Celanese, appellant states the following in ¶ 7 of the Kollar Declaration (italicized emphasis supplied):

7. I had conceived and reduced to practice, at least as early as 1979, the pure isobutylene reaction with pure [TBHP]^[21] as one of many component parts necessary to establish a complete and technologically accessible methanol-based EG manufacturing process. *At this time the commercial aspects of the [DTBP] invention were recognized by me and incorporated in a Redox EG Process disclosure agreement between Redox and Celanese Corp.* This disclosure agreement, which was negotiated with Celanese personnel at their R&D center in Corpus Christi, Texas, carried with it an obligation of confidentiality, and was signed on *November 2, 1979*. Portions of that document, attached hereto as **Exhibit "3"**, constitute a written corroborated record of embodiments within the scope of my conception of the [DTBP] invention not actually reduced to practice at that time.

In part *I.C.4.* of the § 1.608(b) Showing (pages 13-14), appellant states the following with respect to the "Redox EG Process disclosure agreement" and Kollar Declaration *Exhibit 3* (emphasis supplied).

To that [Redox EG Process disclosure] agreement was attached a more detailed description of the technology which was only outlined on page 1, paragraphs 1.1, A. - C., which was entitled "Alkylation Of t-Butyl Hydroperoxide with Isobutylene." The attached document describes a number of embodiments of the invention of the Proposed Count^[22] in such complete detail that it leaves no doubt that said invention had been actually reduced to practice by Applicant.

Appellant has described the document that was submitted as *one* part of Kollar Declaration *Exhibit 3* in two different ways. First, in the passages quoted above, appellant refers

²¹ In an experiment designated "R-3," a process falling within claim 1 using the known reactants, isobutylene and TBHP, and as the requisite catalyst, "Amberlyst A-15, a strong acid ion exchange resin of the sulfonic acid type," to prepare DTBP was conducted on June 29, 1979, by John Christopher Kollar (John Christopher Kollar Declaration, ¶¶ 2 through 4 and *Exhibit 1-a*). Appellant states that experiment "R-3" is the "reaction of *iso*-butylene with [TBHP] in the presence of an effective amount of a substantially solid, insoluble, heterogeneous acidic catalyst" (Kollar Declaration, ¶ 4) and in a similar experiment, used "3.0g H⁺ resin dry" which apparently represents the catalyst (Kollar Declaration, ¶ 5 and *Exhibit 2*).

to Kollar Declaration *Exhibit 3* as the “Redox EG Process disclosure agreement between Redox and Celanese Corp.” which was “signed on November 2, 1979” and has certain paragraphs and a particular attachment. However, in his principal brief (e.g., page 9) and Response of March 17, 1998 (e.g., pages 5-6, 7 and 11-12), appellant continuously refers to the document of Kollar Declaration Exhibit 3 as, *inter alia*, the Celanese Joint Development and Licensing Agreement.

We find from the record that the latter description is correct. The document submitted as part of Kollar Declaration *Exhibit 3* is entitled “DEFINITIVE AGREEMENT” and thus, as we have set forth above (*see* pp. 3-4), we refer to this agreement herein as the Celanese Definitive Agreement. An inspection of page 1 of this Agreement shows that the “Agreement was made as of this 1st. day of July 1980” and an inspection of page 24 shows that this agreement was executed by Celanese on “1-7 1981” and by Redox on “12-22-1980.” Furthermore, it is stated in ¶ 7.1 (page 22), that this agreement “supersedes all prior agreements, . . . including the *October 23, 1979 secrecy agreement* between [Celanese] and [Redox] . . .” (emphasis supplied). Moreover, while the document submitted to Celanese entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene,” which is the *other* part of Kollar Declaration *Exhibit 3*, describes “Technology” falling within “paragraphs 1.1, A.- C.” of the Celanese Definitive Agreement, we find no reference in the Celanese Definitive Agreement to such an “attachment.”

Indeed, as discussed below (*see* pp. 18-20), we find from the ARCO Confidentiality Agreement and the ARCO/REDOX Secrecy Agreement that the normal business practice of Redox was to include the “disclosure” of the “Technology” with the “confidence” agreement. Thus, we presume from the evidence in the record of this appeal that the “Redox EG Process disclosure agreement” described in ¶ 7 of the Kollar Declaration and in part *I.C.4.* of the § 1.608(b) Showing is “the October 23, 1979 secrecy agreement” which is *not* of record.

We presume from the above documentary and testimonial evidence that the document entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene,” which is the other part of *Exhibit 3* of the Kollar Declaration, must have been part of said “Redox EG Process disclosure agreement” because there is *no* reference thereto in the Celanese Definitive Agreement. In any

²² See the § 1.607 Request for the proposed count and the identification of appealed claims corresponding thereto (pages 1-5).

event, we presume from the evidence of record that Redox had placed this document in the possession of Celanese at some point before the execution of the Celanese Definitive Agreement and that the contents thereof is subject matter that is directly involved in this agreement. We find no evidence in the record that Celanese ever returned the document entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 3*) to appellant's possession.

We further find that the document entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 3*) consists of a cover letter and five (5) pages.²³ This document depicts the title process in the chemical equation appearing on the first page thereof, which equation includes "resin" as the catalyst, and further provides detailed information for conducting the title process. Indeed, in the introductory paragraph, the reaction is said to be "acid catalyzed" which has separation benefits in the following manner:

Alkylation is effected by strong acid ion exchange resin of the sulfonic acid type preferably with the macro reticular [sic, reticular] structure that is most beneficial for organic reactions. Other solid acids are also effective and do not require the removal of the organics by distillation which is our preferred operating conditions.

In the section entitled "Table 4 Alkylation – Physical Properties," another chemical equation for the title process is set forth. In the section entitled "Table 3 Alkylation of t-Butyl Hydroperoxide Design Case," the "Catalyst" is listed as " H^+ resin" and the reaction mixture in addition to TBHP and isobutylene, includes the alkyating alcohol TBA and the olefins isobutylene and butylene (" nC_4 "). This document further contains information and projections with respect to process performance with certain reactor designs, including "Engineering Safety and Environmental" considerations, in a large scale manufacturing process.

We find that TBHP, isobutylene, TBA and butylene are all reactants encompassed by claim 1 which provides that the latter three reactants can be used separately or in admixture. The chemical equations set forth in this document fall within chemical equation "(2)" on page 6 of appellant's specification while the information disclosed in this document with respect to conducting the reaction and the catalysts is found on pages 8-10 thereof and in the specification

²³ We presume that this document is a section of a substantial disclosure document or documents because appellant admits in his Response of March 17, 1998 (page 9) that Kollar Declaration *Exhibit 3* is incomplete.

Examples.

Accordingly, based on the evidence of record, we find that the description of the processes of preparing DTBP from isobutylene and TBHP, including chemical equations depicting that method, the description of the catalysts and the advantages of using the same, with and without TBA and/or butylene, in the document entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 3*) are sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes with one olefin reactant, with and without an alkylating alcohol reactant and another olefin reactant, falling within claim 1 in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1. Indeed, appellant admits in part *I.C.4.* of the § 1.608(b) Showing (page 14) that this document "describes a number of embodiments of the invention . . . in such complete detail that it leaves no doubt that said invention had been actually reduced to practice by Applicant."

We find that Redox made a further written disclosure with respect to processes for preparing DTBP to Celanese in a document marked "REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting," prepared by appellant and presented to Celanese personnel in a January 21, 1983 meeting, which document is *Exhibit 5* of the Kollar Declaration (§ 9). We find no evidence in the record that Celanese ever returned this document to appellant's possession.

We find that the document marked "REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting" (Kollar Declaration *Exhibit 5*) contains as a "Major Areas of Research" the "[a]lkylation of [TBHP] with [TBA]" and as one of the "Major Conclusions" the disclosure that "[a]lkylation of [TBPH] with [TBA] for the product of [DTBP] appears to be quite practical" and has attached thereto a page marked "1-107" which contains information on the "Alkylation of [TBPH] with [TBA]" that is "H⁺ Resin catalyzed," and shows that the alkylating alcohols methanol and ethanol can be included in the reaction mixture. This document is described by appellant in the Kollar Declaration in following manner:²⁴

²⁴ See also part *I.C.6.* of the § 1.608(b) Showing (page 15).

9. I reduced to practice further embodiments of my [DTBP] invention in late 1982. As part of an ongoing cooperative effort between Redox and Celanese at that time, an alternative optimization of the basic process, using alcohol by-products produced downstream ([TBA] and/or mixtures of [TBA] and methanol and ethanol)[,] was used to alkylate [TBHP] to [DTBP]. This was disclosed to Celanese personnel on January 21, 1983. The summary report presented to Celanese is attached hereto as **Exhibit "5"**.

We find that TBA along with the other two alcohols are, separately or in admixture, within the definition of the "alkylating alcohol" reactant in claim 1, and thus, this disclosure involves "further embodiments" of the claimed invention as appellant admits. Indeed, we further find that one of ordinary skill in this art reading this disclosure with knowledge of the catalysts discussed in the document submitted to Celanese entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 3*) would have recognized that the disclosure of "H⁺ Resin catalyzed" in the document of January 21, 1983, would mean the acid catalysts set forth in the prior document.

One significance of the disclosure of the process of preparing DTBP from TBHP and TBA is that while the use of TBA *alone* to produce DTBP is not specified in step "B" of the "Field" of ¶ 1.1 of the Celanese Definitive Agreement, it is provided for by the clause in this section which provides that the "'Field' shall also include related processes using organic peroxides for the manufacture of EG in which the overall sequence of steps remains the same, but one or more intermediate steps has been omitted or replaced by an equivalent or comparable step or a new step has been added" (see above p. 11). We find that this disclosure would have suggested to one of ordinary skill in this art that DTBP can be obtained with either isobutylene or TBA and that these two processes would encompass an "equivalent or comparable step" to step "B" of the "Field" of ¶ 1.1 of the Celanese Definitive Agreement.

We find that TBA, methanol, ethanol, and isobutylene are reactants encompassed by claim 1. We find that processes utilizing the alkylating alcohol TBA, with or without the alkylating alcohols methanol and ethanol, fall within chemical equation "(1)" on page 5 of appellant's specification while the information for conducting the reaction and the catalysts is found on pages 8-10 thereof and in the specification Examples.

Accordingly, based on the evidence of record, we find that the description of the processes of preparing DTBP from TBHP and an alkylating alcohol, including an embodiment of

that process and the description of the catalyst, in the document submitted to Celanese entitled “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*) are sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes with at least one alkylating alcohol reactant falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1.

The record also contains the document entitled “Redox II Design and Economics Update,” which is Kollar Declaration *Exhibit 4*, that was authored by Celanese personnel. This document is stated by appellant in ¶ 8 of the Kollar Declaration to be “[t]he first inclusion of a description of my [DTBP] invention in a formal Celanese document,” and in part *I.C.5.* of the § 1.608(b) Showing (page 15) to “[constitute] tangible and demonstrative evidence which still further corroborates Applicant’s testimony regarding conception [and] actual reduction to practice.” We find that the only parts of the “Redox II Design and Economics Update” document submitted as Kollar Declaration *Exhibit 4* is the first page of the “Summary” and a part of “Appendix B Block 2 – TBHP Alkylation.”²⁵ In the section entitled “Process Description,” it is disclosed that “(TBHP) is alkylated with isobutylene to DTBP in the liquid phase in the presence of strong acid ion exchange resin” with process parameters, including reactants and products, analyzed in “Table B-III Block material Balance.” Thus, on this evidence, and in similar manner to the document entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 3*), the description of the processes of preparing DTBP from isobutylene and TBHP and other reactants are sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes with one olefin reactant falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1. We observed that the “Summary” includes a forecast of results obtained with the “Redox II ethylene glycol (EG) process” which achieve an “advantage over Shell,” a competitor. We find no evidence in the record that Celanese relinquished control of this partial document to appellant.

²⁵ Appellant admits in his Response of March 17, 1998 (page 9) that Kollar Declaration *Exhibit 4* is incomplete.

ARCO

Turning now to the disclosure of the “Technology” to ARCO, we find that appellant states in the Kollar Declaration that:

10. . . . I disclosed to personnel of [ARCO] . . . the Redox EG Process (as described in [Kollar Declaration] Paragraphs 7.-9. above) on May 14, 1987 in Newton [sic, Newtown] Square, PA. That disclosure included documents which contained a description of the [DTBP] invention. The pertinent parts of the Redox EG disclosure to [ARCO] are attached hereto as **Exhibit “6”** and will be observed to incorporate therein at least a part of each of Exhibits “3” through “5” inclusive.^[26]

We observe that Kollar Declaration *Exhibit 6* is the ARCO Confidentially Agreement (*see above* p. 4). We find that REDOX was to disclose the “Technology” in written format to ARCO in Newtown Square, PA facility pursuant to ¶ 1 of this agreement (*see below* p. 21). However, the sole documentation of the technical disclosure connected with this agreement submitted with the Kollar Declaration is *Exhibit 7* thereof, which exhibit is not referred to in that declaration but is referred to in the § 1.608(b) Showing (page 16) as being attached to the Kollar Declaration (*see above* note 10). Kollar Declaration *Exhibit 7* is a document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene.” The content of this document section is described in part *II. A.* of the ¶ 1.608(b) Showing (page 16):

The information provided to [ARCO] was similar in content and scope to that which was provided to [Celanese] earlier, as is shown by the documentation attached to the [Kollar Declaration] as Exhibit “7;”

We find that the document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 7*) has additional content compared to the document of the same title submitted to Celanese (Kollar Declaration *Exhibit 3*; *see above* pp. 14-15), as described in ¶ 10 of the Kollar Declaration. Indeed, this document section updates the information found in the document of the same title submitted to Celanese and in addition includes and expands on information contained in the document submitted to Celanese entitled

²⁶ The cited ¶¶ 7 through 9 and *Exhibits 3* through *5* of the Kollar Declaration refer to the parts of the three documents discussed in connection with the disclosure of the “Technology” to Celanese (*see above* pp. 12-17). We note again here that appellant admits in his Response of March 17, 1998 (page 9) that “only a few pages of the [DTBP] relevant block 2 has been included . . . as [Kollar Declaration] Exhibits 3, 4 and 7.”

“REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*; *see above* pp. 15-17), as well as information in the document entitled “Redox II design and Economics Update” prepared by Celanese personnel (Kollar Declaration *Exhibit 4*; *see above* p. 17). We find, in this respect, that the document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 7*) discloses essentially similar information on processes for preparing dialkyl peroxides by reacting an alkylating alcohol and/or olefin with an alkyl hydroperoxide in the presence of a substantially solid, insoluble, heterogeneous acidic catalyst, followed by separation of the reaction mixture from the catalyst as disclosed to Celanese. On this evidence, we similarly find here that the description of the processes in the document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 7*) are sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1, in the same manner as the contents of the documents submitted to Celanese and the document generated by Celanese personnel substantially incorporated therein.

We find that the ARCO/REDOX Secrecy Agreement is directed to a “process for the production of ethylene glycol from methanol and an organic peroxide (hereinafter called the ‘Process’)” (¶ A, page 1, last four lines). We further find that the record contains no further evidence with respect to the “Process” because this document, as submitted by appellant, is incomplete as page 2 is missing, and the “Information” to be provided pursuant to this agreement, which is the “Report and all other data or information . . . relating to any aspect of the Process including . . . the technology” as set forth on page 3 thereof, has not been introduced into the record by appellant. We presume from appellant’s statements in his Response of March 17, 1998 (pages 10-11 and 13-14), and particularly the description of this document as an extension of the ARCO Confidentiality Agreement to an Australian venture (page 11), that the “Process” involves the same “Technology,” including the step of preparing DTBP, which was the subject of the ARCO Confidentiality Agreement. Thus, on this record, we presume that the description of the processes of the “Technology” which include embodiments falling within claim 1 in the

disclosure made to ARCO pursuant to the ARCO/REDOX Secrecy Agreement was at least the same as provided under the ARCO Confidentiality Agreement and thus sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1.

III.

Having determined that processes encompassed by claim 1 are embodied in the “Technology” disclosed by Redox to Celanese with respect to the Celanese Definitive Agreement and to ARCO with respect to the ARCO Confidentiality Agreement and the ARCO/REDOX Secrecy Agreement, we now consider the interaction between Redox and ARCO and Redox and Celanese and the transactional nature of these documents as evinced by the provisions thereof and any evidence of record pertaining thereto.

ARCO

We find that interaction of Redox and ARCO with respect to the “Technology” prior to the ARCO Confidentiality Agreement, executed by Redox on “4-29-87,” began with a “solicitation period, prior to the Confidence Agreement and prior to the Disclosure” during which ARCO “knew in complete detail the full status of the Redox EG ‘Technology’” (Response of March 17, 1998; page 6). There is no other evidence in the record with respect to the interaction between Redox and ARCO during the “solicitation period” and the “Confidence Agreement” and prior to the apparent “Disclosure” of the “Technology” pursuant to the ARCO Confidentiality Agreement. However, the three stages of this course of business are apparently reflected to some extent in the introductory clauses of this agreement (page 1; emphasis supplied):

[ARCO] understand [sic] that [Redox] has developed and has *rights* to a process for conversion of methanol to ethylene glycol including catalysts used in the process (the “Technology”).

[ARCO] desires to receive a disclosure of the Technology from [Redox] for the *purpose of evaluating* the Technology to determine whether [ARCO] desires *to make an offer* to [Redox] to *acquire* the Technology.

The "Technology" was to be disclosed to ARCO as provided in ¶ 1 (emphasis supplied):

1. At mutually agreeable times, REDOX shall for a period of two (2) non-consecutive days disclose the Technology to [ARCO] at . . . [the] Newtown Square, PA facility. The disclosure shall include material in a *written format* (2 books for [ARCO's] evaluation) and an oral presentation of its contents to [ARCO] personnel, as well as discussions with [ARCO] personnel concerning the foregoing. The content of the written format is more specifically set forth in Exhibit A, attached hereto and made a part of this Agreement.

The "Exhibit A" attached to this Agreement provided, *inter alia*:

- A. Chemistry and Technology Book I – chemistry, theory and data are presented for each important process section. Discussion of the factors that influence rate, selectivity operability, economics and other important considerations.
- B. Engineering Narrative – a discussion of the engineering concepts utilized, with emphasis on operations that yield improved economics.
- C. An Environmental Impact assessment.

As we found above, the "material in written format" that Redox disclosed and conveyed to ARCO under ¶ 1 of this Agreement a document disclosing the "Technology," a section of which is entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 7*) which provides a description of processes of preparing dialkyl peroxide sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1 (*see above* pp. 18-20)

The evaluation of the thus disclosed "Technology" by ARCO was limited by the evaluation period set forth in ¶ 2 and by the license set forth in ¶ 3 (emphasis supplied):

2. [ARCO] shall advise REDOX of its decision concerning its desire to acquire the Technology within four (4) months of completion of the final disclosure visit defined in paragraph 1. . . . ,
3. REDOX agrees to grant, and does hereby grant, to [ARCO] a *non-exclusive right and license* under REDOX's [sic, REDOX's] Technology (*including patent rights*) to *experimentally evaluate* and *experimentally reproduce* all or any part of the . . . [Technology] disclosed by REDOX to [ARCO].

In exchange for the four-month, “non-exclusive right and license” to “evaluate” the “Technology” following the disclosure thereof, ARCO had the following obligations (emphasis supplied):

4. For its *services* in making the above disclosure and *granting of rights*, [ARCO] shall *pay* REDOX the sum of . . . \$20,000 This payment shall not be refundable, but in the event REDOX licenses or sells the Technology to a third party during the four month evaluation period . . . REDOX shall promptly refund the \$20,000 payment to [ARCO].
5. [ARCO] will treat as *confidential* and will *not disclose to others or use*, except as authorized herein or as otherwise expressly authorized by REDOX, any Technology provided to [ARCO] by REDOX.

. . . .

7. *All obligations* of [ARCO] under paragraph 5 shall *expire on May 1, 1997*.

We find that ARCO’s obligations to keep the information disclosed confidential and to refrain from use thereof unless otherwise authorized by Redox under ¶ 5 of *this* agreement was *limited* to a period which, in any event, would expired no later than May 1, 1997 under ¶ 7. Thus, in the absence of an understanding between the parties to the contrary, we find that under this agreement, ARCO had the right to disclose to others and otherwise use any of the disclosure of the “Technology” without obligation to Redox as of May 1, 1997.

We find no evidence in this record that directly describes the nature of the “rights” in the “Technology,” including the processes of claim 1 encompassed therein, that Redox asserted in this agreement. Thus, in view of the confidentiality and non-use agreement of ¶ 5 of this agreement as limited by ¶ 7, and the absence of evidence that “patent rights” were asserted, we presume that the asserted “rights” can be characterized as a “trade secret.”

We further find no evidence in this record that directly describes the range of options which the parties intended to be embodied in the phrase “acquire the Technology” as there is no evidence of the interaction between the parties during the “solicitation period” which induced ARCO to enter into this agreement. We do not find that the scope of this phrase is clarified by the clear intent of Redox in ¶ 4 of this agreement to retain the right to “[license or sell] the Technology to a third party during the . . . evaluation period referred to in paragraph 2.” Even if the phrase is interpreted in view of the plain language of this agreement to mean that ARCO

would “license or buy” the “Technology” as a “trade secret,” the range of options, for consideration to be agreed upon, included within its scope would encompass a non-exclusive right or license to “use” embodiments of the “Technology” as well as a limited, exclusive license conveying title and possession in and to the “Technology” to the extent that it includes the right to sublicense the same to others in the same manner as in the Celanese Definitive Agreement we discuss below (*see* pp. 29-32). We find that appellant’s arguments with respect to the term “acquire” and statement that “Redox never made . . . an offer to sell, nor entertained or anticipated an [ARCO] offer to buy” the “Technology” in the Response of March 17, 1998 (pages 4–6) are contrary to the interaction of the parties and Redox’s business activities with respect to the “Technology” reflected in the introductory paragraphs and ¶ 4 of this agreement.

In any event, on this record, the only “right” in the “Technology” that ARCO actually acquired pursuant to ¶ 3 of this agreement was “a non-exclusive right and license under REDOX’s Technology (including patent rights) to *experimentally evaluate* and *experimentally reproduce* all or any part of the . . . [Technology] disclosed” for a four-month period.

There is no direct evidence submitted by appellant in his § 1.608(b) Showing and in the Kollar Declaration of any further interaction between Redox and ARCO based on the last sentence of ¶ 2 of the ARCO Confidentiality Agreement, and we presume from appellant’s statements in the Response of March 17, 1998 (pages 10-11 and 13-14), and indeed find from ARCO’s protest (page 4), that ARCO did not “acquire the Technology” in any respect pursuant to this agreement. There is also no evidence that REDOX licensed or sold the Technology to a third party during the four month evaluation period.” Thus, we presume that under ¶ 4, ARCO paid and Redox retained the \$20,000 fee. We further find no evidence in the record that ARCO returned to Redox any of the written material supplied by Redox under this agreement.

However, we find that the following year, Redox and ARCO entered into the ARCO/REDOX Secrecy Agreement on “the 12th day of May 1988,” which provided for a further four-month period for “Evaluation” of the “Technology” by ARCO “with a view to ARCO deciding whether or not it will enter into an arrangement with Redox relating to” the “Technology” (pages 1 and 3). We find no evidence in this record that directly describes the range of options which the parties intended to be embodied in the term “arrangement” and there

is no evidence of the additional interaction between the parties following the termination of the prior agreement which induced ARCO to enter into this agreement. We further find that appellant described this agreement as an extension of the ARCO Confidentiality Agreement to an Australian venture. Indeed, appellant states that “[ARCO] reopened discussions with Redox . . . to assess participating in a development effort of the ‘Technology’ which was being pursued in Australia,” and that this Agreement had the effect of “extending the confidence obligation to those Australian business arrangements” (Response of March 17, 1998, page 11).²⁷

The extent of the evidence of record that pertains to the ARCO/REDOX Secrecy Agreement and the further “Evaluation” of the “Information” with respect to the “Technology,” disclosed as the “Process” (*see above* pp. 19-20), is the document itself and appellant’s statements in the Response of March 17, 1998 (pages 10-11 and 13-14). We find that the interaction between ARCO and Redox was governed by the ARCO/REDOX Secrecy Agreement and the ARCO Confidentiality Agreement as provided in ¶ 4 of the former (emphasis supplied):

4. This agreement *and* the agreement of April 23, 1987 between Arco and Redox Technologies, Inc. constitute the *entire understanding* between the parties in relation to the Information and Evaluation. Nothing herein shall be construed so as to oblige any party to enter into any further agreement

It appears from the ARCO/REDOX Secrecy Agreement, to the extent that it is of record (*see above* p. 19), that ARCO did not pay Redox any additional fees for the “Information”:

1. In consideration of the obligations of Arco hereinafter contained, Redox shall provide Arco with the Report and such further Information as in the reasonable opinion of Redox is necessary for Arco to carry out the Evaluation. . . .

We found above that, on this record, the “Technology” disclosed to ARCO pursuant to the ARCO/REDOX Secrecy Agreement is at least the same as provided under the ARCO

²⁷ We find that although this Agreement involves the evaluation of the Technology which was being developed in Australia (appellant’s Response of March 17, 1998, pages 13-14), it was executed in the United States by ARCO and REDOX (page 1) and provides that “[t]his Agreement shall be construed in accordance with the laws of the State of New Jersey” (¶ 5). Thus, Redox and ARCO entered into this Agreement in “this country” within the meaning of § 102(b) even if the activity that it represents occurred in Australia. *Compare Caveney*, 761 F.2d at 676-77, 226 USPQ at 4 (the on-sale bar of § 102(b) applies to a sale or offer to sell that is directed to a prospective purchaser at its place of business in the United States but originates outside of this country).

Confidentiality Agreement which are sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1 (*see above* p. 20).

Part of ARCO's obligation under this agreement was to assess the "Information," including the "commercialization" thereof for its own purposes:

4. . . . [Arco] must fully test and assess the Information using its own resources to satisfy itself as to all matters touching upon the Information, the Process and the commercialization thereof.

The other part of ARCO's obligation was with respect to confidentiality, non-disclosure and use of the "Information" as follows (emphasis supplied):

2. Arco hereby agrees that all Information disclosed by Redox pursuant to this Agreement shall be subject to the following conditions.
 - (a) Arco shall treat all Information received in the *strictest confidence* and, . . . without the prior consent in writing of Redox, shall *not directly or indirectly disclose* all or any part of the Information to *any third party* and *shall not use all or any part of* the Information for any purpose other than the carrying out of the Evaluation.
....
 - (d) Arco may disclose all or part of the Information received from Redox to its employees who are directly involved in the Evaluation but only to the extent as may be reasonably required by such employee for the carrying out of his or her function in relation to the Evaluation
....
 - (f) The Information may be used by Arco for the purposes of the *Evaluation for a period of four months* from the date thereof. Upon the expiration of such period or earlier on the written request of Redox, *Arco shall return all Information* howsoever represented or stored, *except that one copy of such Information shall be retained* by [ARCO's] legal department *for record purposes only*.
 - (g) As between Arco and Redox *all Information shall remain the property of Redox*, and Arco shall *not obtain any legal or equitable right to all or any part of the Information*.
3. Notwithstanding the prior termination of this Agreement the *obligations of confidence, non-disclosure and non-use* contained herein *shall apply for a period of ten years* from the date hereof.

We find that the ARCO/REDOX Secrecy Agreement extended and expanded upon the confidentiality, disclosure and use provisions set forth in the ARCO Confidentiality Agreement such that ARCO could retain one copy of the "Information" provided by Redox under both agreements "for record purposes only;" that this copy of the "Information" and, indeed, "all Information" provided by Redox to ARCO under either agreement remained "the property of Redox" without ARCO obtaining "any legal or equitable rights" therein; that ARCO had the use of the "Information" provided only for a four-month "Evaluation" under the ARCO/REDOX Secrecy Agreement in similar manner to the ARCO Confidentiality Agreement; and that the ARCO/REDOX Secrecy Agreement extend the date that ARCO's "obligation of confidence, non-disclosure and non-use" of the "Information" would expire from May 1, 1997, as set in the ARCO Confidentiality Agreement, to May 12, 1998, that is, ten years from the date of the ARCO/REDOX Secrecy Agreement.

We find no evidence in this record with respect to the ARCO/REDOX Secrecy Agreement that any "legal or equitable rights" asserted by Redox with respect to the "Technology" and "Information" with respect thereto can be characterized as other than a "trade secret" (*see above* p. 22).

Thus, on this record, the only "right" in the "Technology" that ARCO actually acquired pursuant to either agreement was a non-exclusive right and license to experimentally evaluate and experimentally reproduce all or any part of the disclosed "Technology" for two four-month periods.

We presume from appellant's statements in of the Response of March 17, 1998 (pages 10-11 and 13-14) that ARCO did not pursue the "Technology" under the ARCO Secrecy Agreement. We find no statement to the contrary in ARCO's protest (page 4). We further do not find in the evidence of record any indication that ARCO retained more than one copy of any written material or "Information" provided by Redox "for record purposes."

Celanese

The sole document placed in the record by appellant which sheds light on and governed the interaction between Redox and Celanese with respect to the "Technology" is the Celanese Definitive Agreement which is also referred to by appellant as, *inter alia*, the Celanese Joint

Development and Licensing Agreement (*see above* pp. 12-13). Indeed, the “Redox EG Process disclosure agreement” described in ¶ 7 of the Kollar Declaration and in part I.C.4. of the ¶ 1.608(b) Showing reasonably appears to be “the October 23, 1979 secrecy agreement” which document, by any title, is not of record (*see above* p. 12-13).

We find no evidence in the record of the interaction between Redox and Celanese which led to the Celanese Definitive Agreement. In any event, as stated in ¶ 7.1 (page 22) of the Celanese Definitive Agreement, this agreement “supersedes all prior agreements, . . . including the [*Redox EG Process disclosure*] agreement October 23, 1979 secrecy agreement between [Celanese] and [Redox].”²⁸ However, we found from the evidence that Redox had placed the document submitted to Celanese entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” in the possession of Celanese at some point before the execution of the Celanese Definitive Agreement, probably with the “Redox EG Process disclosure agreement,” and that it involves subject matter directly involved in this agreement (*see above* pp. 12-14). We presume from the record that such a disclosure by Redox would fall within Redox’s apparent normal business practice of a “solicitation period, prior to the Confidence Agreement and prior to the Disclosure,” as stated by appellant with respect to the ARCO Confidentiality Agreement in his Response of March 17, 1998 (page 6) and as further evinced in ¶ 2.7 (page 8) of the Celanese Definitive Agreement:

- (f) Redox Technology in the Field has not previously been disclosed to any third parties *except* pursuant to *secrecy and non-use agreements* copies of *all* of which have been provided to Celanese. [Emphasis supplied.]

The document entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 3*) provides a description of processes that include step “B” of the “Field” sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1 (*see above* pp. 11 and 14-15).

²⁸ Also *not* of record is the “July 1, 1980 Heads of Agreement” between Celanese and Redox that is also cited in ¶ 7.1 the Celanese Definitive Agreement.

Thus, we presume from the record that Celanese had already taken an initial “look-see” at the “Technology” which would include processes falling within claim 1, prior to the time that it entered into an “R&D” agreement with Redox embodied in the Celanese Definitive Agreement, the essence of which is that Celanese would scale-up to commercial production the “Technology” as outline in the “Field” in ¶ 1.1 of this Agreement during the “R&D Phase,” to the extent that Celanese deemed it necessary, as seen in the first sentence of ¶ 2.1 (page 5) of this agreement:

- 2.1 Celanese, with the cooperation of Redox, shall conduct such research and development (R&D) in the Field, and shall pilot such step or steps as Celanese deems advisable, with a goal to achieving, by the end of 5 R&D Years, Celanese approval for a commercial plant in the Field. If such approval has been given by the end of 5 R&D years, the R&D Phase shall cease on the date such approval is given and the Commercial Phase shall begin.

The “R&D Phase” is defined as follows:

- 1.3 The term “R&D Phase” shall mean the period of time during which Celanese, with the cooperation of Redox, shall conduct research and development activities in the Field and Celanese shall pay fees to Redox as more particularly set forth in Section 2.3.

Pursuant to ¶ 2.3 (page 6), “[d]uring the R&D Phase, Celanese also shall pay to Redox” a blanked out sum in each of the “R&D Years,” which funds are

nonrefundable but one-fifth of the aggregate of such payments shall be applied to royalties paid to Redox by Celanese during each of the first five years such royalties may be due as hereinafter provided in this Agreement.

We find that in addition to the “R&D Phase” payments, Celanese agreed to pay for “cooperative work” by Redox “personnel,” as provided in ¶ 2.2 (page 6), and for “consultation” by appellant, as provided in ¶ 2.8 (pages 8-9). With respect to the cooperative arrangement, Celanese was to make certain “minimum expenditures for R&D work in the Field” during the “R&D Phase,” as provided in ¶ 2.4 (pages 6-7); Redox was “to continue its own R&D work in the Field . . . and to consult with and keep Celanese informed,” as provided in ¶ 2.5 (page 7); and both parties were to “exchange progress reports in the Field and . . . meet . . . and exchange information in the Field during the R&D Phase” and into the “Commercial Phase,” as provided in ¶ 2.6 (page 7).

In this respect, during the “R&D Phase,” Celanese personnel conducted experimentation in the “Field” and authored at least one written report thereon entitled “Redox II Design and Economics Update” which provided a description of processes that include step “B” of the “Field” sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1 (*see above* pp. 11 and 17). Further during the “R&D Phase,” Redox presented a document to Celanese personnel in a meeting on January 21, 1983, the document submitted to Celanese entitled “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*) that provides a description of processes that include alternative methods of preparing the DTBP product of step “B” of the “Field” sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by claim 1 (*see above* pp. 11 and 16-17).

We find that during the “R&D Phase,” Redox and Celanese would refrain from licensing each others “Technology” and “Patents,” as defined in ¶¶ 1.8 through 1.10 (pages 4-5), to third parties, as provided in ¶ 4.6 (page 16). Otherwise, under these provisions, Redox and Celanese each possess the “right to license” their own “Technology” and “Patents” to “others without accountability to third parties” and “[t]itle to all patents shall be with the inventing party” under ¶ 4.1 (page 12).

The “Commercial Phase” of the agreement is defined as follows (page 3):

- 1.4 The term “Commercial Phase” shall mean (a) the period beginning on the date of Celanese approval for the first Celanese plant in the Field until termination of the Agreement or, if no such approval is given within 7 years of the date hereof, (b) the period of time following termination of the R&D Phase and ending June 30, 2005.

We presume from the record, and in the absence of evidence to the contrary submitted by appellant, that the “Commercial Phase” as set forth in ¶ 1.4 of the agreement was not reached and

that, instead, Celanese terminated this agreement in the “R&D Phase.”²⁹ In the absence of evidence of an understanding between the parties to the contrary, we presume from the record that the position of Celanese with respect to any Redox “Technology” that was “disclosed” to Celanese pursuant to this agreement was governed by the following provisions (pages 10-11) (emphasis supplied):

- 3.1 Until June 30, 20[blank] or such earlier date as the parties may agree, each party agrees to maintain confidence and to require all licensees, sublicensees, consultants, contractors, and other properly given access to technology in the Field to maintain in confidence for at least 15 years all technology in the Field.^[30] . . . During the R&D Phase, Redox agrees to maintain in confidence the fact that it has entered into this Agreement with Celanese excepting such disclosures as shall already have been made and of which Celanese has been informed and excepting disclosures made with Celanese concurrence.
- 3.2 Celanese may *terminate* this Agreement at any time *during or at the end* of the R&D Phase by giving [blank] days written notice to Redox. In the event of such termination, *Redox shall have a non-exclusive right to license to others all Celanese Patents and Technology conceived before termination to the extent that the same are within the Field*, and the following shall apply:
 - (a) If termination occurs after the critical major process steps in the Field have been demonstrated on a pilot plant basis, Celanese thereafter shall receive a [blank]% share of all third party option payments, fees, and royalties collected by Redox, and *Celanese and Celanese Affiliates shall enjoy a non-exclusive right to use and operate under all Redox Patents and Technology in the Field under the terms set forth in Section 5.2* except that the *royalty rates* to be paid by Celanese shall be [blank]% of those provided for in Section 5.2.

²⁹ According to appellant, “[t]he function and fruition of [the Celanese Definitive Agreement] was in fact solely and purely chemical science experimentation *with not a single drop of commercial product or commercial exploitation* emanating therefrom” (Response of March 17, 1998, page 2, emphasis supplied; see also pages 11-12). See also the statement in ARCO’s Protest that “Celanese decided not to commercialize Kollar’s (Redox) EG process” (page 4), which was not disputed by Redox in the Response of September 25, 1997 or elsewhere in the record (*see above* note 11).

³⁰ We observe that even if the date in ¶ 3.1 of this agreement is “June 30, 2000” rather than “June 30, 2005” as in ¶ 1.4 of this agreement, that period is *greater* than the “15 years” of confidentiality that Redox and Celanese must require of other parties which are given access to the “technology in the Field” pursuant to ¶ 3.1 of this agreement. The earliest possible date that a third party’s period of confidentiality would expire under this provision, based on the date of this agreement, would be July 1, 1995.

(b) If termination occurs earlier than as provided in Section 3.2(a), *Celanese and Celanese Affiliates shall enjoy a non-exclusive right to use and operate under all Redox Patents and Technology in the Field under the terms set forth in Section 5.2*

. . . .

. . . .

5.2 For *resultant products from commercial plants* in the Field in North America Celanese and Celanese Affiliates shall pay to Redox *running royalties*

We find from ¶ 3.2 (pages 10-11) that regardless of the activity that occurred in the “R&D Phase” prior to notice of termination by Celanese, “Celanese and Celanese Affiliates shall enjoy a non-exclusive right to use and operate under all Redox Patents and Technology in the Field,” that is, to commercialize the “Technology” even though the “Commercial Phase” has not been reached, in consideration for which Celanese would pay Redox, *inter alia*, “running royalties” “[f]or resultant products from commercial plants in the Field in North America,” as determined by prior R&D activity, pursuant to ¶ 5.2 (pages 16-17). We further find that Celanese could offset any “running royalties” with R&D payments made pursuant to ¶ 2.3 (page 6). We presume that Celanese made payments to Redox during the R&D Phase as provided in ¶¶ 2.3 and 2.4 (pages 6 and 7) and there is no evidence of record that Redox returned these funds. We further presume that Celanese did not use and operate under all or any part of “Redox Patents and Technology in the Field” after the termination of the agreement (*see above* note 29).

In addition to the right to receive “running royalties” from commercialization of the “Technology” by Celanese, Redox also had “a non-exclusive right to license to others all Celanese Patents and Technology conceived before termination to the extent that the same are within the Field.” Indeed, Redox included in the document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 7*) submitted to ARCO information prepared by Celanese personnel (*see above* pp. 18-19).

We find that the limited scope of the commercial, “non-exclusive right to use and operate under all Redox Patents and Technology in the Field” conferred upon Celanese under ¶ 3.2 is placed in perspective by the commercial “license” that Celanese would have enjoyed during the “Commercial Phase” under ¶ 5.1 of the agreement (page 16) (emphasis supplied):

5.1 During the Commercial Phase, Celanese shall have a *license* under Redox Patents and Redox Technology in the Field to design, engineer, construct and operate a pilot plant and one or more commercial plants, to sell the resultant products, and to *sublicense others in the Field in North America*, which right, except to sell the resultant products, shall be *exclusive* for the *term* of this agreement.

We find that the “license” of ¶ 5.1 would have conferred upon Celanese an “exclusive” right *in* and *to* “Redox Patents and Technology in the Field” to the extent that Celanese would have had the *exclusive* right to use and operate thereunder *and* the *exclusive* right to “sublicense [Redox Patents and Technology to] others in the Field in North America” for a *limited* term. With respect to the territorial limitation, we further find that under ¶ 5.9 (page 19), Redox would have licensed “in the Field . . . any Celanese Affiliate and any third party company Celanese nominates *outside* of North America” (emphasis supplied). With respect to the phrase “term of this agreement,” we find that Celanese would have had “a fully paid up license under the patents and technology” of Redox upon the termination of the agreement pursuant to ¶ 5.12 (page 19).

Accordingly, on this record, we find that the “right” to commercialize which Celanese did receive from Redox upon the termination of the agreement under ¶ 3.2 was a simple, non-exclusive license to “use” embodiments of the “Redox Patents and Technology in the Field,” including embodiments of the claimed process encompassed by appealed claim 1, for commercial purposes as opposed to a license conferring title and possession in and to the “Redox Patents and Technology in the Field” at least to the extent that Celanese had the right to “sublicense” the same to third parties in North America in addition to the right to commercialize the “Technology” as provided in ¶ 5.1. In view of said “right to use and operate,” we presume from the absence of evidence to the contrary, that Celanese retained all of the written material provided to it by Redox, including the documents submitted to Celanese entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” and “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” which embodied processes falling within appealed claim 1, as well as all written reports on the experimentation conducted by Celanese prepared by Celanese personnel during the “R&D Phase,” including the document entitled “Redox II Design and Economics Update” which describes embodiments of processes falling within appealed claim 1.

In the absence of evidence of an understanding between the parties to the contrary, we further presume from the record that upon termination of the agreement during the "R&D Phase," Celanese and Redox were obligated "[u]ntil June 30, 20[blank] . . . to maintain in confidence . . . all technology in the Field" pursuant to ¶ 3.1 (page 9). There is no evidence in the record which establishes whether Celanese did in fact maintain in confidence "all technology in the field," including the content of the documents submitted to Celanese entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" and "REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting," after termination of the agreement. We find from the ARCO Confidentiality Agreement and the ARCO/Redox Secrecy Agreement that Redox did disclose such "Technology" pursuant to an obligation of confidentiality that expired May 1, 1997 (*see above* p. 26).

We find no evidence in this record that, pursuant to this agreement, Redox asserted or pursued any patent rights with respect to the Redox "Technology in the Field" which would include processes falling within claim 1, and, in any event, Redox did not assign any patent rights to Celanese pursuant to this agreement.³¹ Thus, we infer from the absence of evidence of patent activity pursuant to this agreement and the presence of the confidence provision of ¶ 3.1, that Redox had maintained its "rights" in the "Technology" as "trade secrets" during and after the termination of this agreement.

This agreement further contains the following provision (page 20) (emphasis supplied):

- 6.1 Redox grants to Celanese an option, together with a right of first refusal, to acquire a license from Redox on terms similar to those in this Agreement with respect to a process or step(s) of a process as set forth in the definition of the Field, which process or step(s) lie(s) outside the Field but is/are based upon the process or the step(s) in the definition of the Field.

We find that ¶ 6.1 would encompass a process consisting of using process step "A" to

³¹ We note here that even if Celanese had followed through to the "Commercial Phase" and obtained the exclusive license described in ¶ 5.1 of the Celanese Definitive Agreement, such a license is not tantamount to the "patent rights" in the "Technology" which included embodiments of the claimed process encompassed by appealed claim 1. Under 35 U.S.C. § 271 (1984), Infringement of patent, a patent provides the right to exclude others from making using or selling the patented invention within the United States for the term of the patent..

prepare the starting material TBHP and to prepare DTBP therewith in process step “B,” wherein DTBP would be used for purposes other than preparing EG according to the “Field.” Thus, these two “step(s) of a process as set forth in the definition of the Field” form a “process” that “lie(s) outside of the Field” that is encompassed by claim 1. Indeed, we interpreted claim 1 to include a process step of preparing one of the reactants, such as the preparation of the “hydroperoxide reactant” TBHP by the reaction of isobutane and oxygen as in process step “A” of the “Field” (*see above* p. 9). Each of the documents submitted to Celanese, entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 3*; second page) and “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*; first page), suggest that DTBP should be separately produced for uses other than the manufacture of EG as in the “Technology.” In the latter document, Redox specifically suggested “[c]ommercial production of [DTBP], a high priced specialty chemical, from [isobutane] in a pilot plant operation,” which process would involve steps “A” and “B” of the “Field.”

We find no evidence that Celanese ever exercised the option granted in ¶ 6.1. We further presume in the absence of evidence of patent activity and the presence of the limited confidence agreement of ¶ 3.1 of this Agreement, that Redox maintained the processes falling within ¶ 6.1, as disclosed in the two documents it submitted to Celanese, as “trade secrets.”

IV.

With respect to whether any or all of the Celanese Definitive Agreement, the ARCO/REDOX Secrecy Agreement and the ARCO Confidentiality Agreement constitute evidence of “a commercial offer for sale” of the claimed processes encompassed by appealed claim 1, *Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1646-47, “[i]t is well settled that a sale is a contract between parties to give and to pass rights of property for consideration which the buyer pays or promises to pay the seller for the thing bought or sold.” *Caveney*, 761 F.2d 671, 676, 226 USPQ 1, 4; *see also Brasseler*, 182 F.3d at 890, 51 USPQ2d at 1472 (“The transaction at issue undisputedly was a ‘sale’ in a commercial law sense. *See [Caveney]*.”). A chemical process can be bought or sold by a commercial contract that would give and pass rights of property to the extent that the buyer would be supplied with information defining an embodiment or embodiments of a process and can use that information to use or practice the embodiment(s) of

that process in return for consideration which the buyer pays or promises to pay the seller. *See, e.g., Scaltech*, 178 F.3d at 1380-83, 51 USPQ2d 1055 at 1056-57, 1058 (“embodiment” of the claimed “process for producing delayed petroleum coke”); *Petrolite Corp. v. Baker Hughes Inc.*, 96 F.3d 1423, 40 USPQ2d 1201, 1202-03, 1204-05 (Fed. Cir. 1996) (claimed method of “reducing the amount of hydrogen sulfide . . . in hydrocarbon streams” using specified hydrogen sulfide scavengers); *compare Chemical Separation Technology Inc. v. United States*, 53 USPQ2d 1419, 1420-21, 1423-24 (Fed. Cl. 1999) (claimed method of “removing metal compounds from waste water” using specified flocculating agents).

It is also well settled that “a sale or offer to sell under 35 U.S.C. § 102(b) must be between two separate entities,” which situation exists where the entities are separately owned and can act independently, even though the commercial sale or offer to sell involves an exclusive arrangement between the parties with respect to sales of a product or a process, *see, e.g., Caveney, supra*, to manufacture thereof or to any joint development involved therewith. *See, e.g., Brasseler*, 182 F.3d at 890, 51 USPQ2d at 1472, citing *Buildex Inc. v. Kason Indus., Inc.*, 849 F.2d 1461, 1465, 7 USPQ2d 1325, 1328 (Fed. Cir. 1988) (“We have ‘never recognized a ‘joint development’ exception to the ‘on sale’ bar.”). It does not matter that the commercial sale or offer to sell was kept in confidence between the parties. *See, e.g., Brasseler*, 182 F.3d at 891, 51 USPQ2d at 1473 (“We are also not persuaded by Brasseler’s assertion . . . that the sale at issue here was not in the public [sic] and thus was not a § 102(b) sale. As we noted in *Buildex*, ‘[t]he ‘public’ [for purposes of § 102(b)] is not limited to ultimate users of the product’ 849 F.2d at 1465, 7 USPQ2d at 1329. Similarly, in *Caveney*, we rejected the argument that sales activity kept secret from the trade does not trigger the on-sale bar. 761 F.2d at 675-76, 226 USPQ at 3-4.”).

The existence of a commercial offer for sale prior to the critical date can be established by an actual sale, a signed sales contract or purchase agreement, *see, e.g., Brasseler, supra*, the acceptance of a purchase order, *see, e.g., Pfaff, supra; Caveney*, 761 F.2d at 675, 226 USPQ at 3, or a firm offer to sell even if that offer is not accepted. *See, e.g., RCA*, 887 F.2d at 1062, 12 USPQ2d at 1454 (definite offer to sell claimed product, in the context of a bid on a contract for the experimental development of a specifically different product, was not accepted); *Buildex*,

849 F.2d at 1464, 7 USPQ2d at 1327-28 (evidence of showing of working model, discussion of terms and subsequent written quotation established a firm offer to sell); *UMC Electronics Co. v. United States*, 816 F.2d 647, 657, 2 USPQ2d 1465, 1472 (Fed. Cir. 1987) (definite offer in writing to sell product was not accepted). It is not necessary that the documents evincing a definite sale or offer for sale contain details of the claimed invention since such details can be established by any relevant evidence that it in fact was the claimed invention that was offered or sold. *RCA*, 887 F.2d at 1059-60, 12 USPQ2d at 1452-53.

The offer for sale is presumed to be commercial in character unless the record contains evidence to the contrary. *See Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1647 (“In this case . . . there is no question that the sale was commercial rather than experimental in character.”); *Vanmoor v. Wal-Mart Stores, Inc.*, 201 F.3d 1363, 1363, 53 USPQ2d 1377, 1379 (Fed. Cir. 2000) (“Vanmoor makes no argument that the pre-critical date sales were for a non-commercial purpose.”); *Brasseler, supra*, citing *Pfaff, supra* (“Brasseler has failed to convince us that the sale was not ‘commercial’ or is otherwise exempt from § 102(b).”); *compare Mahurkar v. Impra Inc.*, 71 F.3d 1573, 1577, 37 USPQ2d 1138, 1142 (“Because we conclude that Quinton’s sale to Northwest was a sham that did not result in ‘commercialization’ of the invention or place it in the public domain, no § 102(b) sale occurred even though the prototype was a reduction to practice of the invention.”). The burden of establishing that a transaction between parties that involves the claimed invention is for the purposes of experimentation and not of a commercial nature rests with applicant. *See Scaltech*, 178 F.3d at 1384 n.1, 51 USPQ2d at 1059 n.1 (“Scaltech argues that its invention was still experimental at the time Scaltech was soliciting an opportunity to practice the invention. This argument fails because it is premised on the ‘experimental stage’ doctrine which has been rejected by both this court and the Supreme Court. [Citations omitted.] Commercial exploitation, if not incidental to the primary purpose of experimentation, will result in an on sale bar, even if the invention was still in the experimental stage. [Citation omitted.]”); *Petrolite*, 96 F.3d at 1426, 40 USPQ2d at 1204, quoting *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1564, 4 USPQ2d 1210, 1214 (Fed. Cir. 1987) (“[I]t must be shown that the activity was ‘substantially for purposes of experimentation’.”); *Hamilton, supra*.

There must be objective evidence of an experimental use and not merely a subjective intent to experiment expressed by the inventor. *See In re Brigance*, 792 F.2d 1103, 1109, 229 USPQ 988, 991 (Fed. Cir. 1986) (“While objective indicia are valuable in determining whether the inventor’s use of his invention is experimental, the inventor’s expression of his subjective intent to experiment is, without more, of little value, particularly if expressed after initiation of litigation. [Footnoted citations omitted.]”). The evidence with respect to experimental use must be directed to the claimed product or process even if that product or process forms a part of another product or process that is the subject of experimentation. *See RCA*, 887 F.2d at 1061, 12 USPQ2d at 1453-54 (“RCA, nevertheless, argues that an invention which has been reduced to practice cannot be placed on sale in the context of a contract to develop a specifically different product which is in the experimental stage. We think not.”). The specific limitations of the claimed invention specified in the claims must be the subject of the experimentation. *See Brigance*, 792 F.2d at 1109, 229 USPQ at 991-92 (“This court and its predecessors have stated that the experimental use exception does not apply to experiments performed with respect to non-claimed features of an invention.”). However, once the invention as claimed has been reduced to practice or is sold without the requirement for further experimentation, the claimed invention is no longer the subject of experimentation. *See RCA*, 887 F.2d at 1061, 12 USPQ2d at 1453 (“Thus, having been reduced to practice, a sale or offer to sell the Cole invention is no longer justifiable as experimental use.”); *Kock v. Quarker Oats Co.*, 681 F.2d 649, 656-58, 215 USPQ 200, 206-08 (9th Cir. 1982) (“If the buyer has the authority to use an invention commercially or sell it to others without regard to any duty to experiment further, there is a sale within section 102(b), and the exception for experiment does not apply. It is not enough that the parties do not think it is likely that commercial exploitation will occur. . . . Here, Merry was not limited to experimentation and had the absolute right of immediate commercial exploitation.”).

The “commercial offer for sale” of an embodiment of a claimed invention is all together different than an offer to sell or assign *all* of the rights *in* the invention. In *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1267, 229 USPQ 805, 809 (Fed. Cir. 1986), our reviewing court agreed with the district court that “even if there were an earlier oral agreement [in which

Nichols agreed to assign all his rights in the puzzler invention to Moleculon], an assignment or sale of the rights in the invention and potential patent rights is not a sale of ‘the invention’ within the meaning of section 102(b).”³² In that case, there was *no* evidence that “the parties contemplated the sale or transfer to Moleculon of the single physical embodiment of the puzzle then in existence.” *Id.* The court cited, *inter alia*, *Scott Paper Co. v. Moore Business Forms, Inc.*, 594 F.Supp 1051, 1075, 224 USPQ 11, 29 (D. Del. 1984), as a case holding that “a sale of patent rights does not come within the section 102(b) bar.” *Id.* In *Scott Paper*, the district court held that “the ‘on sale’ bar is not applicable’ on the facts” that the inventor, for consideration of “\$15,000, executed an option and agreement granting ‘the exclusive option and right to purchase . . . all the entire right, title and interest in and to the inventions’ for a period of four month during which the potential purchaser “was ‘to conduct during the option period only, a program of research and testing to determine whether said inventions are commercially practicable,” with an option to further “extend the initial four-month option period by paying” the inventor

³² An offer of *part* of the “legal rights” in an invention was found in *Mas-Hamilton Group Inc. v. LaGard Inc.*, 156 F.3d 1206, 1216-17, 48 USPQ2d 1010, 1019 (Fed. Cir. 1998), wherein our reviewing court affirmed “the district court’s conclusion that the . . . patent was not invalid based on the on-sale bar,” stating the “primary factual issue . . . [as] whether Mosler was merely a potential licensee of legal rights, or, rather a potential customer of devices.” The court noted the district court’s determination that ““at no time did LaGard offer to sell the invention to Mosler,” which was based in part on the district court’s finding “that Mosler was only a potential licensee. *Cf. Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1267, 229 USPQ 805, 809 (Fed. Cir. 1986) [quotation omitted].” *Id.* In this respect, the court further noted the district court’s finding that LaGard had provided Mosler with prototype locks “for testing or show, only, and did not represent commercial sales of the lock even though money changed hands,” and that LaGard had further offered Mosler “either (1) production rights in the invention, or of (2) the exclusive rights to market the invention to the government, neither of which involved a sale or an offer to sell the device themselves.” *Id.* However, the court did not rest entirely on these findings of the district court but further found that “the testimony also indicated that Mosler . . . provided a purchase order that was never filled, and that *no agreement was reached about the particulars of the proposed lock* prior to the critical date” (emphasis supplied). *Id.* Both findings are relevant with respect to whether there was a commercial offer to sell an embodiment of the claimed invention. *Compare, e.g., Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1647 (“[T]he acceptance of a purchase order . . . makes it clear that such an offer [of the claimed invention] had been made . . .”) ; *Scaltech*, 178 F.3d at 1383, 51 USPQ2d at 1058 (“[T]he district court erred by failing to address whether an embodiment of the claimed invention was offered for sale.”).

additional consideration; that “a ‘program of research and testing’ . . . was all that was ever done in the four month option period” and that while the agreement provided for “commercialization” in connection with the testing, such was “never attempted;” and that “[w]hen the four-month option period ended, [the potential purchaser] elected not to extend the option and it returned to [the inventor] all the test samples that [the potential purchaser] had made, the copies of the patent applications, and all other documents.” *Id.*

However, as noted by the district court in *Moleculon Research Corp. v. CBS, Inc.*, 594 F.Supp 1420, 1428, 224 USPQ 595, 601 (D. Del. 1984), with respect to *Kock, supra*, and *Manufacturing Research Corp. v. Graybar Elec. Co.*, 679 F.2d 1355, 215 USPQ 29 (11th Cir. 1982), where an embodiment of the claimed invention was on-sale in addition to assignment or licensing of rights in the invention, the offer for sale of the embodiment was sufficient to place the claimed invention on-sale within the meaning of 35 U.S.C. § 102(b).

V.

Applying the guidance of our reviewing court to the *evidence of record*, as we have found it above, in determining whether embodiments of the claimed process encompassed by appealed claim 1 were “the subject of a commercial offer for sale,” which is the first condition of the test announced by the Supreme Court in *Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1646-47, we find that embodiments of the claimed process encompassed by appealed claim 1 were “the subject of a commercial offer for sale” made by Redox to Celanese in connection with the Celanese Definitive Agreement, but were not “the subject of a commercial offer for sale” in connection with the ARCO Confidentiality Agreement and the ARCO/REDOX Secrecy Agreement.

ARCO

We found above that pursuant to the ARCO Confidentiality Agreement and the Redox/ARCO Secrecy Agreement, Redox disclosed to ARCO the “Technology” which included embodiments of the claimed process encompassed by claim 1, in a written form that was sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by appealed claim 1 (*see above* pp. 18-20), *Tec Air*, 192 F.3d at

1358, 52 USPQ2d at 1296-97; *Scaltech*, 178 F.3d at 1383, 51 USPQ2d at 1058, even though the description of the “Technology” in these agreements *per se* did not contain the details of the claimed process. *RCA*, 887 F.2d at 1059-60, 12 USPQ2d at 1452-53. On this record, these documents evince that ARCO, for consideration in the amount of \$20,000, purchased the *disclosure* of the “Technology” which included embodiments of the claimed process encompassed by claim 1, and a non-exclusive *license* to *evaluate* the same for two four-month periods to determine, for its own purposes, *inter alia*, the “commercialization” of the “Technology,” and incurred the obligation to return of all but one copy of the disclosure retained for record purposes and the further obligations of confidence, non-disclosure and non-use of the “Technology” which included embodiments of the claimed process encompassed by claim 1, for a limited period to expire May 12, 1998, which date is subsequent to the filing date of this patent application.

Accordingly, *on this record*, we find that these documents *per se* do *not* evince that as between ARCO and Redox, an embodiment of the “Technology” which included an embodiment of the claimed process encompassed by claim 1, was the subject of a commercial offer for sale before the critical date, even though money changed hands. Thus, we conclude *on this evidence* that the “Technology” which included embodiments of the claimed process encompassed by claim 1, was not on-sale within the meaning of § 102(b). *Cf. Brasseler*, 182 F.3d at 890, 51 USPQ2d at 1472 (“The transaction at issue undisputedly was a ‘sale’ in a commercial law sense. *See [Caveney, 761 F.2d at 676, 226 USPQ at 4] [quotation omitted].*”); *Moleculon Research*, 793 F.2d at 1267, 229 USPQ at 809 (“[A]n assignment or sale of the rights in the invention and potential patent rights is not a sale of ‘the invention’ within the meaning of section 102(b).”); *Scott Paper, supra*.

Therefore, because the *evidence of record* does not establish that, *prima facie*, the claimed invention was the subject of a commercial offer for sale, which is the first condition in the test announced in *Pfaff, supra*, we *reverse* the ground of rejection based on the evidence of record involving ARCO.

We point out, however, that our decision with respect to this ground of rejection does *not* settle the issue of whether, prior to executing the ARCO Confidentiality Agreement and/or the

Redox/ARCO Secrecy Agreement, Redox did in fact make a firm, commercial offer to sell the “Technology” which included embodiments of the claimed process encompassed by claim 1, to ARCO as an inducement to ARCO to at least enter into one or both of these agreements (*see above* pp. 20-21 and 23-24; *see below* pp. 48-49). *See, e.g., RCA*, 887 F.2d at 1062, 12 USPQ2d at 1454; *Buildex*, 849 F.2d at 1464, 7 USPQ2d at 1327-28; *UMC Electronics, supra*.

CELANESE

The evidence of record involving Celanese and the Celanese Definitive Agreement is significantly different. Pursuant to this agreement, the “Technology” which included embodiments of the claimed process encompassed by claim 1, was disclosed by Redox to Celanese and further research and development reported by Redox and by Celanese in written form that was sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by appealed claim 1 (*see above* pp. 14-17), *see Tec Air, supra; Scaltech, supra*, even though the description of the “Technology” in this agreement *per se* did not contain the details of the claimed process. *See RCA*, 887 F.2d at 1059-60, 12 USPQ2d at 1452-53.

It is clear from the signed Celanese Definitive Agreement that while there was an “R&D Phase” in which Celanese, with the participation of Redox, was to experiment with the “commercialization” of the “Technology” if Celanese deemed it necessary, Celanese would acquire one of two different commercialization “rights” in the “Technology” from Redox depending on whether Celanese terminated the agreement during the “R&D Phase” or carried through with the “Commercial Phase” (*see above* pp. 29-31). We focus here on the lesser of the two commercialization “rights” conveyed by the agreement, that is, “Celanese and Celanese Affiliates shall enjoy a non-exclusive right to use and operate under all Redox Patents and Technology in the Field” which included embodiments of the claimed process encompassed by appealed claim 1, for commercial purposes (*see above* pp. 31-32), for two reasons.

First, regardless of the outcome of the “R&D Phase” or whether the “Commercial Phase” was reached, Celanese upon signing this agreement had obtained for itself and its affiliates *at*

least this limited “right” to commercialize for the consideration of “R&D Phase” payments to Redox, “running royalties” “[f]or resultant products from commercial plants in the Field in North America” to be paid to Redox which could be offset by the “R&D Phase” payments, and granting Redox “a non-exclusive right to license to others all Celanese Patents and Technology conceived before termination to the extent that the same are within the Field.” Thus, the signed agreement is evidence of a firm commercial offer for sale of embodiments of the claimed process encompassed by claim 1.

And, second, *on this record*, we presume that it turned out that Celanese did in fact obtain this limited commercial “right” for the consideration of “R&D Phase” payments made to Redox, there being no “running royalty” payments, and granting Redox “a non-exclusive right” to license certain of Celanese Patents and Technology in the “Field” to others, at least a part of which “Technology” Redox did disclose to ARCO in the document section entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 7*). In view of said “right to use and operate,” we presume from the absence of evidence to the contrary, that Celanese retained all of the written material provided to it by Redox as well as all written reports authored by Celanese personnel on experimentation conducted during the “R&D Phase,” which documents embody processes encompassed by appealed claim 1. Thus, the signed agreement is evidence of an actual commercial sale of embodiments of the claimed process encompassed by appealed claim 1.

In other words, this signed agreement is evidence that Redox had offered to Celanese at least the simple, non-exclusive “right” to commercialize embodiments of the “Technology in the Field” which included embodiments of the claimed process encompassed by claim 1, and the written disclosure of such embodiments, in return for certain consideration from Celanese, and, indeed, pursuant to the signed agreement, said “right” to commercialize embodiments of the claimed process encompassed by claim 1 and the written material describing these embodiments was conveyed to Celanese by Redox for consideration which Celanese paid to Redox prior to the critical date.

The research and development required by this agreement focused on experimentation with respect to the commercialization of embodiments of the “Technology” which included

embodiments of the claimed process encompassed by claim 1, but only to the extent that Celanese *deemed it necessary* to so experiment before entering into the “Commercial Phase” (*see above* pp. 28-31). Thus, as seen from the document entitled “Redox II Design and Economics Update” (Kollar Declaration *Exhibit 4*), the experimentation undertaken by Celanese with embodiments of the claimed process encompassed by claim 1 was directed to optimization of process parameters, with respect to a competitive market advantage over a competitor, which process parameters are not specified in claim 1. Indeed, there was *no experimentation* on the *basic* process specified in claim 1 that was disclosed to Celanese in the documents entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 3*) and “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*) and admitted by appellant to be a process that was *reduced to practice* (*see above* pp. 11-17).

Accordingly, *on this record*, we find that the signed Celanese Definitive Agreement, *prima facie*, constitutes evidence that embodiments of the “Technology,” including embodiments of the claimed process encompassed by claim 1, were the subject of a commercial offer for sale before the critical date, and there is no evidence that the research and development conducted with respect to commercialization of the “Technology” conducted under this agreement was experimental in character with respect to the claimed invention. *Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1647 (“In this case the acceptance of the purchase order prior to [the critical date] makes it clear that such an offer had been made, and there is no question that the sale was commercial rather than experimental in character.”); *compare Chemical Separation Technology, supra* (“[I]n advance of the critical date, plaintiffs had made an offer to Summitville, that offer had been accepted, a purchase order had been submitted by Summitville, and Summitville had made its first lease payment . . . The existence of these events is clear and convincing proof that the invention in question was subject to a commercial offer prior to the critical date.”).

VI.

Because the Celanese Definitive Agreement evinces that, *prima facie*, embodiments of the “Technology” which included embodiments of the claimed process encompassed by claim 1, were the subject of a commercial offer for sale before the critical date, we now consider whether

the claimed process was ready for patenting, which is the second condition of the test announced by the Supreme Court in *Pfaff*, 525 U.S. 55, 67-68, 48 USPQ2d 1641, 1647. This condition may be satisfied at least by evidence that prior to the critical date, appellant had reduced the claimed invention to practice or had “prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the claimed invention.” *Pfaff, supra*. Here, there is evidence of record that, *prima facie*, appellant satisfied this condition under *both* of these tests.

First, appellant has presented evidence that embodiments of the claimed process encompassed by appealed claim 1 had been reduced to practice before the initial disclosure of the “Technology” to Celanese and that additional embodiments of the claimed process had been subsequently reduced to practice and then disclosed to Celanese (*see above* pp. 12-17). And, second, the documents entitled “Alkylation Of t-Butyl Hydroperoxide With Isobutylene” (Kollar Declaration *Exhibit 3*) and “REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting” (Kollar Declaration *Exhibit 5*) disclosing the embodiments of the claimed process that were reduced to practice to Celanese contained chemical equations and other description of the embodiments that were sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by appealed claim 1 (*see above* pp. 14-17). We further find that the document entitled “Redox II Design and Economics Update” (Kollar Declaration *Exhibit 4*) prepared by Celanese personnel based on the disclosure by appellant of embodiments of the claimed invention, relied on by appellant to corroborate conception and reduction to practice of the claimed invention, provided a description of the “Technology” which included embodiments of the claimed process encompassed by claim 1, in a written form that was sufficiently specific to have enabled one of ordinary skill in this art to practice embodiments of processes of preparing dialkyl peroxides falling within claim 1, in a manner which, if this disclosure was added to the prior art, would have anticipated or would have rendered obvious the claimed process as encompassed by appealed claim 1 (*see above* p. 17).

VII.

Accordingly, *on this record*, we find that the transaction between Redox and Celanese with respect to the Celanese Definitive Agreement, *prima facie*, satisfies both of the conditions of the test announced by the Supreme Court in *Pfaff*, 525 U.S. at 67-68, 48 USPQ2d at 1646-47, and thus conclude, as a matter of law, that, *prima facie*, embodiments of the claimed process encompassed by appealed claim 1 were on-sale before the critical date within the meaning of 35 U.S.C. § 102(b). Thus, in view of the *prima facie* case that the claimed invention was on-sale within the meaning of § 102(b) as established on the evidence of record as we have found it above, the burden of going forward has shifted to appellant to submit argument and/or evidence in rebuttal. *See, e.g., Hamilton, supra; Caveney*, 761 F.2d at 674-75, 226 USPQ at 3.

We have carefully considered all of appellant's arguments and authority presented in his principal and reply briefs that pertain to the new ground of rejection that we have made based on the evidence of record involving Celanese pursuant to our authority under 37 CFR § 196(b) (1997). In view of the evidence of record as we have found it above, we cannot agree with appellant's characterization of the Celanese Definitive Agreement in the principal and reply briefs³³ as a joint research and development agreement between corporate partners which had the purpose of "purely chemical science experimentation" in order to "solicit corporate interest to effect joint development of applicant's major chemical innovation;" which resulted in "not a single drop of commercial product or commercial exploitation;" and which did not contemplate a sale of an embodiment or commercially exploit the "Technology" but rather the sale of "potential rights," thus avoiding an on-sale bar on the authority of *Moleculon Research*, 793 F.2d at 1267, 229 USPQ at 809, and *Larami Corp. v. Lanard Toys Lt.*, 22 USPQ2d 1440, 1446 (E.D. Pa. 1992).

We cannot agree with appellant's basic contention that purpose of this agreement was the experimental use of embodiments of the claimed invention encompassed by claim 1 which is the focus of our inquiry with respect to § 102(b). *See RCA*, 887 F.2d at 1061-62, 12 USPQ2d at 1453-54. The fact that the Celanese Definitive Agreement may be a joint research and

³³ See principal brief, e.g., "d.," top of page 4; "5." and "6.," page 7; pages 9-10; and pages 11-12. See reply brief, e.g., page 5.

development agreement does not *per se* avoid the on-sale bar. *See Brasseler*, 182 F.3d at 890, 51 USPQ2d at 1472. Furthermore, there is no provision in this joint research and development agreement which placed Celanese under any obligation to experiment in any fashion with the claimed process. Indeed, as long as Celanese made the minimum R&D expenditures pursuant to ¶ 2.4 of the agreement (pages 6-7), it could have terminated the agreement prior to any experimentation with the claimed process and, along with its affiliates, would still “enjoy a non-exclusive right to use and operate under all Redox Patents and Technology in the Field.” In any event, there was no further experimentation required to achieve the claimed process specified in appealed claim 1 because appellant admitted on the record that the embodiments of the claimed process disclosed to Celanese had been reduced to practice *prior* to that disclosure and had further disclosed the embodiments in documents that contained chemical equations and other description of the embodiments sufficiently specific to enable one of ordinary skill in the art to practice the claimed invention without further experimentation such that Celanese could use the claimed process based on this disclosure without experimentation. *See Pfaff*, 525 U.S. at 67, 48 USPQ2d at 1647 (the invention was ready for patenting); *RCA*, 887 F.2d at 1061, 12 USPQ2d at 1453; *Kock*, 681 F.2d at 656-58, 215 USPQ at 206-08. The fact that Celanese did experiments with unclaimed parameters of a disclosed embodiment to determine whether it could gain a market advantage over a competitor does not amount to experimental use. *See Brigrance*, 792 F.2d at 1109, 229 USPQ at 991-92. In view of these facts, appellant’s subjective intent to experiment is entitled to little weight. *See Brigrance*, 792 F.2d at 1109, 229 USPQ at 991.

We further cannot agree with appellant’s contention that there was no commercialization embodied in this agreement because Celanese did not commercially exploit the invention and Redox did not contemplate a sale of an embodiment of the claimed process to Celanese or commercially exploit the “Technology.” The focus in this inquiry is whether *appellant* commercialized embodiments of the claimed invention encompassed by claim 1 in its interactions with Celanese as evinced by the Celanese Definitive Agreement and *not* whether Celanese was successful in commercializing the claimed invention pursuant to this agreement. *See Brasseler*, 182 F.3d at 890-91, 51 USPQ2d at 1472-73 (“By way of the sale to Brasseler, these inventors commercially exploited the invention prior to the critical date.”). It is clear from

the provisions of the agreement that one potential outcome thereof was that Celanese would enjoy a non-exclusive, limited license to “use and operate under all Redox Patents and Technology in the Field,” including embodiments of the claimed process encompassed by claim 1, which is significantly less than the exclusive license that included the right to license the “Technology,” including embodiments of the claimed process encompassed by claim 1, which was the other potential outcome. The non-exclusive, limited license to “use and operate under all Redox Patents and Technology in the Field” which included embodiments of the claimed process encompassed by claim 1, enjoyed by Celanese under the agreement and the retention by Celanese of the disclosures of embodiments of the claimed invention provided by Redox, placed the use of the embodiments of the claimed process in the possession of Celanese for the consideration of the “R&D Phase” payments, any “running royalties” and granting Redox “a non-exclusive right to license to others all Celanese Patents and Technology conceived before termination to the extent that the same are within the Field,” which constitute the necessary elements of a commercial sale of a chemical process. *See, e.g., Scaltech*, 178 F.3d at 1383, 51 USPQ2d at 1056-57; *Petrolite*, *supra*; compare *Chemical Separation Technology* *supra*; see also *Brasseler*, 182 F.3d at 890, 51 USPQ2d at 1472.

Thus, the agreement is evidence of a firm offer to sell embodiments of the claimed process and, on this record, such a sale came to fruition. While appellant may have contemplated that Celanese would follow through to obtain the exclusive license, the facts that the agreement did include the potential sale of embodiments of the claimed process and the embodiments were then sold is evidence that the claimed invention encompassed by appealed claim 1 was the subject of a commercial offer for sale within the meaning of 35 U.S.C. § 102(b). Thus, the facts of this case are akin to those in *Kock*, *supra*, and *Manufacturing Research*, *supra*, and not *Moleculon Research*, 793 F.2d at 1267, 229 USPQ at 809, and *Larami*, *supra*, in which there was an assignment of all of the “patent rights” and *no* evidence that an embodiment of the claimed invention was on sale.³⁴

³⁴ In view of our conclusion as a matter of law that, *prima facie*, embodiments of the claimed process encompassed by appealed claim 1 were offered for sale and sold to Celanese, we do not

Accordingly, the burden to rebut the *prima facie* case that the claimed invention encompassed by appealed claim 1 was on-sale within the meaning of § 102(b) remains with appellant.

VIII.

While we have affirmed the decision of the examiner based on our view of the evidence above with respect to Celanese, thus designating our affirmance as involving a new ground of rejection pursuant to our authority under 37 CFR § 196(b) (1997), a number of issues with respect to whether the claimed process encompassed by the appealed claims was on-sale within the meaning of 35 U.S.C. § 102(b) have been raised by the evidence of record. In this respect, *MPEP* § 706.02(c), "Rejection Under 35 U.S.C. 102(a) or (b); Knowledge by Others or Public Use or Sale" (7th ed., Rev. 1, Feb. 2000; 700-12) provides the following:

Note that as an aid to resolving public use or on sale issues, as well as to other related matters of 35 U.S.C. 102(b) activity, an applicant may be required to answer specific questions posed by the examiner and to explain or supplement any evidence of record. Information sought should be restricted to that which is reasonably necessary for the examiner to render a decision on patentability.

... [If] the requirement [for information] is part of an Office action ... the period for reply to the Office action will also apply to the requirement. If applicant fails to reply in a timely fashion to a requirement for information, the application will be regarded as abandoned. 35 U.S.C. 133.

Appellant must provide explanation and/or supplemental evidence as required with respect to all of the matters requiring further information set forth below in any response filed under either of the options provided in 37 CFR § 1.196(b) (1997) (*see below* pp. 51-52) in order to avoid the abandonment of the application.

What presentations and representations, oral and written, were made by Redox to ARCO during the "solicitation period" with respect to the "complete detail [of] the full status of the Redox EG 'Technology'" (Response of March 17, 1998; page 6), which would have included embodiments of the claimed process encompassed by claim 1 as seen from the phrase "a process for conversion of methanol to ethylene glycol including catalysts used in the process" in the

find it necessary to consider the exclusive license that Celanese would have obtained pursuant to ¶ 5.1 of the Celanese Definitive Agreement (*see above* pp. 31-33 and note 31).

ARCO Confidentiality Agreement, which led to this agreement? What presentations and representations, oral and written, were made by Redox to ARCO during the "solicitation period" with respect to the "rights" that Redox asserted in the "Technology" and the range of purchase, assignment and/or licensing options which Redox offered to ARCO. What was the range of purchase, assignment and/or licensing options parties intended to be encompassed in the phrase "[ARCO] desires to make an offer to [Redox] to acquire the Technology" in the ARCO Confidentiality Agreement? What presentations and representations, oral and written, were made by Redox to ARCO subsequent to the ARCO Confidentiality Agreement, which led to the Redox/ARCO Secrecy Agreement? Appellant must provide a copy of page 2 of the Redox/ARCO Secrecy Agreement. Appellant must provide a copy of any disclosure made to ARCO that is not of record with respect to embodiments of the claimed invention encompassed by claim 1, including those portions of the document section submitted to ARCO entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 7*) which appellant admits to be incomplete, and the disclosure of the "Technology" which includes embodiments of the claimed process encompassed by claim 1 that is contained in the "Report" and other "Information" pursuant to ¶ 1 of the Redox/ARCO Secrecy Agreement.

What presentations and representations, oral and written, were made by Redox to Celanese during the "solicitation period" with respect to the "Technology," and embodiments of the claimed invention encompassed by claim 1 prior to signing the Celanese Definitive Agreement? Appellant must provide copies of the "Redox EG Process disclosure agreement," the "October 23, 1979 secrecy agreement" and the "July 1, 1980 Heads of Agreement" (see ¶ 7.1 of the Celanese Definitive Agreement). Appellant must provide a copy of any disclosure made to Celanese that is not of record with respect to embodiments of the claimed invention encompassed by claim 1, including those portions of the document submitted to Celanese entitled "Alkylation Of t-Butyl Hydroperoxide With Isobutylene" (Kollar Declaration *Exhibit 3*) and "Redox II Design and Economics Update" (Kollar Declaration *Exhibit 4*) which appellant admits to be incomplete. Where there are other disclosures made to Celanese during the "R&D Phase" in the manner of the document entitled "REDOX TECHNOLOGIES INCORPORATED January 21, 1983 Meeting" (Kollar Declaration *Exhibit 5*)? What presentations and

representations, oral and written, were made by Redox to Celanese prior to the Celanese Definitive Agreement with respect to the “rights” that Redox asserted in the “Technology” and the range of purchase, assignment and/or licensing options which Redox offered to Celanese?

What presentations and representations, oral and written, were made by Redox to Celanese with respect to the apparently separate processes referred to ¶ 6.1 of the Celanese Definitive Agreement which would appear to include embodiments of the claimed invention encompassed by claim 1 separate and apart from the “Technology” (*see above* pp. 33-34). Did Celanese exercised the option granted in ¶ 6.1?

What presentations and representations, oral and written, if any, were made by Redox involving the claimed invention encompassed by claim 1 separate and apart from the “Technology” with respect to any solicitations, confidence agreements or disclosure agreements made to any party other than Celanese prior to the critical date, that is, is December 5, 1994?

It reasonably appears from ¶ 2.7(f), ¶ 4.4 and ¶ 3.1 (last sentence) of the Celanese Definitive Agreement that Redox had entered into “secrecy and non-use” agreements with “third parties” prior to signing this agreement, which in view of Redox’s normal course of business would indicate a “disclosure” of the “Technology” had been made to the third parties. Indeed, interaction with third parties with respect to the “Technology” was provided for in ¶ 4 of the ARCO Confidentiality Agreement. None of the “secrecy and non-use agreements” entered into by Redox with parties other than Celanese and ARCO are of the record. Appellant must provide copies of any or all such agreements. What presentations and representations, oral and written, were made by Redox to third parties with respect to the “Technology” which would have included embodiments of the claimed process encompassed by claim 1, which led to these agreements? What presentations and representations, oral and written, were made by Redox to third parties with respect to the “rights” that Redox asserted in the “Technology” and the range of purchase, assignment and/or licensing options which Redox offered to the third parties, which led to these agreements?

Was an unpatented product or another embodiment of a process falling within the claimed process encompassed by claim 1 offered for sale in the United States prior to the critical date, that is, is December 5, 1994? While there is no evidence on this record that an unpatented

product or another embodiment of a process falling within the claimed process encompassed by claim 1 was the subject of a commercial offer for sale by appellant, except, *prima facie*, to Celanese as we concluded above, or by another, Celanese did experiment with and possessed a “right to use” embodiments of the claimed process encompassed by claim 1; the “Technology,” including embodiments of the claimed process encompassed by claim 1, was the subject of appellant’s Australian venture; and ARCO did obtain United States Patent 5,371,298 wherein the claims encompass embodiments also encompassed by claim 1. It does not matter whether the buyer had knowledge of the process by which the unpatented product was produced, *see, e.g.*, the authority cited in ARCO’s Protest (pages 6-8), or the particulars of an embodiment of the process, *see Scaltech*, 178 F.3d at 1384, 51 USPQ2d at 1059, but the relationship of the seller to appellant does matter if the process is generally kept secret, unless the process is disclosed to the involved party. *See, e.g., Caveney*, 761 F.2d at 675-76, 226 USPQ at 3-4 (“[A]ppellants contend that such (on-sale) activity, kept secret from the trade, is not a bar under 35 U.S.C. § 102(b). However, sales or offers by one person of a claimed invention will bar another party from obtaining a patent if the sale or offer to sell is made over a year before the latter’s filing date. [Citations omitted.] . . . An exception to this general rule exists where a patented method is kept secret and remains secret after a sale of the unpatented product of the method. Such a sale prior to the critical date is a bar if engaged in by the patentee or patent applicant, but not if engaged in by another. [Citations omitted.] However, . . . [h]ere the claimed invention was disclosed to the purchaser.”).

The examiner’s decision is affirmed.

In addition to affirming the examiner’s rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, “A new ground of rejection shall not be considered final for purposes of judicial review.”

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision

37 CFR § 1.196(b) also provides that appellant, *WITHIN TWO MONTHS FROM THE DATE OF THE DECISION*, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
- (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

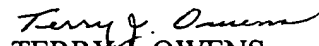
AFFIRMED

37 CFR § 1.196(b)


Requirement for Information


CHARLES F. WARREN)

Administrative Patent Judge)


TERRY J. OWENS)
Administrative Patent Judge)

) BOARD OF PATENT
) APPEALS AND
) INTERFERENCES
)


DOUGLAS W. ROBINSON)
Administrative Patent Judge)

Appeal No. 1998-3109
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